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Draft
Supplemental Environmental
Impact Statement

Old Agency Road Area (Section3P13)

Natchez Trace Parkway

Tennessee/Alabama/Mississippi

2000-017774/NF

Draft Supplemental Environmental Impact Statement
Old Agency Road Area (Section 3P13)
NATCHEZ TRACE PARKWAY
Madison County, Mississippi

April 2000

The Natchez Trace Parkway was established in 1938 to commemorate the Old Natchez Trace, a primitive network of trails stretching from Natchez, Mississippi, to Nashville, Tennessee. The parkway was designed to follow the alignment of the historic trace as closely as possible, and when finished will extend diagonally approximately 716 kilometers (444 miles) from Natchez to Nashville. Two segments of the parkway comprising about 32 kilometers (20 miles) remain unfinished. One segment between U.S. Highways 84 and 98 and the city of Natchez accounts for somewhat less than half of the unfinished distance. The other segment extends from I-20 in Hinds County, Mississippi, to I-55 in Madison County, Mississippi.

This document focuses on completing a 1.8 kilometer (1.1-mile) section of the second segment, known as section 3P13, which is within the city of Ridgeland, Mississippi. While the alignment of the section was outlined in the 1978 *Natchez Trace Parkway / Final Environmental Impact Statement*, subsequent controversy concerning the parkway design and changes to existing roadways prompted the National Park Service to reevaluate the alternatives. The agency is considering five alternatives to complete this section. The alignment of the parkway would be similar under each alternative; however, each alternative would consider different options for Old Agency Road (Old Natchez Trace), the accommodation of future east/west local traffic, and access to adjacent residential neighborhoods. None of the alternatives proposed would require the acquisition of additional right-of-way. This document also presents environmental consequences associated with implementing each alternative.

Alternative 1 is a no-action alternative and would involve the construction of section 3P13 as outlined in the 1978 *Final Environmental Impact Statement*. Consideration of this alternative is required by the National Environmental Policy Act to provide decision makers with a basis for comparison with the other alternatives. Under this alternative the parkway would cross Old Agency Road at-grade; Old Agency Road would be closed and restored to "Old Trace" appearances between Whippoorwill Lane and Richardson Road. The parkway would bridge over Brame Road. A relocated Old Agency Road would be constructed from Whippoorwill Lane along the southern edge of the parkway right-of-way and would cross under the parkway near Brame Road, tying back into Old Agency Road between Richardson Road and Highland Colony Parkway. Estimated construction costs are $7.0 million (1999 dollars).

Under alternative 2 the parkway would cross Old Agency Road at-grade, and Old Agency Road would be closed and restored to Old Trace appearances between Whippoorwill Lane and Richardson Road. A relocated Old Agency Road would be constructed south of the parkway right-of-way from Whippoorwill Lane to Highland Colony Parkway, with a new intersection at Highland Colony Parkway. Estimated construction costs are $6.0 million.

Under alternative 3 the parkway would cross Old Agency Road at-grade, and Old Agency Road would be closed and restored to Old Trace appearances between Whippoorwill Lane and Richardson Road. However, under this alternative Richardson Road would be extended south, passing under the parkway and connecting with a relocated Old Agency Road. Old Agency Road Relocated would be south of the parkway right-of-way from Whippoorwill Lane to Highland Colony Parkway, with a new intersection at Highland Colony Parkway. Estimated construction costs are $7.0 million.

Under alternative 4 the parkway would bridge over Old Agency Road, which would remain open throughout the entire length of the segment. To facilitate east/west local traffic movements from residential areas south of the parkway, a new segment of Old Agency Road would be constructed along the southern edge of the parkway right-of-way, from Old Agency Road near Whippoorwill Lane to Highland Colony Parkway, with a new intersection at Highland Colony Parkway. Estimated construction costs are $7.5 million.

Alternative 5 is the agency's proposed action. The parkway motor road would cross Old Agency Road at-grade, and Old Agency Road would be closed and restored to Old Trace appearances between Whippoorwill Lane and Richardson Road. To facilitate east/west local traffic movements, a relocated Old Agency Road would be constructed along the southern edge of the parkway right-of-way between Whippoorwill Lane and midway between Richardson Road and Brame Road. Old Agency Road Relocated would cross over the parkway motor road east of Richardson Road. At this crossing the parkway motor road would cut through a rise in topography, allowing a bridge to cross over the parkway motor road at the existing road elevation. Estimated construction costs are $7.0 million.

This document will be available for a 60-day public review, beginning with the publication of a notice of availability in the *Federal Register* and in local newspapers. Public meetings for oral or written comments will be scheduled during this 60-day period. For further information about this document contact Craig Stubblefield, Chief of Resource Management, Natchez Trace Parkway, (662) 680-4004. All comments must be received by the end of the review period and should be addressed to:

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United States Department of the Interior • National Park Service

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SUMMARY

This *Draft Supplemental Environmental Impact Statement* presents and analyzes five alternatives for completing section 3P13 of the Natchez Trace Parkway; this section crosses Old Agency Road in Ridgeland, Mississippi. The document also analyzes the environmental impacts associated with implementing the alternatives.

The Natchez Trace Parkway was established in 1938 to commemorate the Old Natchez Trace, a primitive network of trails that stretched from Natchez, Mississippi, to Nashville, Tennessee. The Natchez Trace Parkway has been designed to follow the alignment of the historic trace as closely as the requirements of modern road construction allow; upon completion, it will extend diagonally from Natchez to Nashville, a distance of approximately 716 kilometers (444 mi.).

Today, two segments of the parkway comprising about 32 kilometers (20 mi.) remain unfinished. One segment is between U.S. Highways 84/98 and the city of Natchez, Mississippi, site of the parkway's planned southern terminus; the other extends from I-20 in Hinds County, Mississippi, to I-55 in Madison County, Mississippi. This document focuses on a shorter portion of this segment (section 3P13), a 1.8 kilometer (1.1 mi.) portion within the city of Ridgeland.

The construction of the Natchez Trace Parkway by the National Park Service (NPS) has been underway for more than 60 years. The completion of the unfinished segments would allow for continuous travel on the parkway for recreational drivers without their having to detour through the Jackson, Mississippi, metropolitan area. The parkway's 1987 *General Management Plan* ranks the completion of the parkway motor road as one of its most prominent management objectives.

Land acquisition for section 3P was completed in 1967 when the lands acquired by the state of Mississippi for parkway purposes were transferred to the federal government. The resulting parkway alignment and acquired lands cross portions of the Old Natchez Trace, which has been assimilated into contemporary local public roads at three locations. One of these locations affects a short portion of Old Agency Road in Madison County, the focus of this document. Relocating the portion of Old Agency Road that would be affected by parkway construction within the study area, has been considered and evaluated by the National Park Service and the city of Ridgeland.

ALTERNATIVE 1 — NO ACTION (1978 DESIGN): PARKWAY BRIDGE OVER OLD AGENCY ROAD RELOCATED

Description

This alternative would construct section 3P13 of the parkway motor road as proposed in the 1978 *Final Environmental Impact Statement*. It constitutes the no-action alternative for this supplemental environmental document. A 1.1 kilometer (0.4 mi.) portion Old Agency Road from near Whippoorwill Lane and Richardson Road would be closed and restored to Old Trace appearances. The parkway motor road would cross the closed section of Old Agency Road approximately at-grade and closely follow existing contours, bridge over Old Agency Road Relocated, and connect to the parkway by way of a bridge over Highland Colony Parkway (currently under construction). A new road known as Old Agency Road Relocated would be constructed from Whippoorwill Lane along the southern edge of the parkway right-of-way; it would cross under the parkway bridge near Brame Road and tie back into Old Agency Road between Richardson Road and Highland Colony Parkway. This would facilitate east/west local traffic movements. Vehicles traveling on the parkway would enter and exit at

I- 55, with access by way of Old Agency Road. There would be no access to the Choctaw Agency site under this alternative due to the proximity of the proposed parkway bridge and Old Agency Road Relocated.

Construction elements of this alternative include 1.8 kilometers (1.1 mi.) of parkway motor road, 1.4 kilometers (0.87 mi.) of Old Agency Road Relocated, a parkway bridge over Old Agency Road Relocated, an extension of Brame Road, and access to the Dinsmor subdivision and Greenwood Plantation. Roadway improvements to Old Agency Road east to Highland Colony Parkway would accommodate variations in traffic movements from an improved Old Agency Road Relocated segment that would be considered in consultation with the city of Ridgeland and the Mississippi Department of Archives and History (the state historic preservation office). Approximately 1.1 kilometers (0.7 mi.) of existing roads (Old Agency Road, Brame Road, the entrance to the Dinsmor subdivision, and the Greenwood Plantation access drive) would be removed and revegetated within the NPS right-of-way.

Natural and cultural resources would be managed in accordance with the park's *Resource Management Plan*. Forest cover would be retained wherever possible for visual screening and noise buffers. Additional vegetative buffers would be planted along the parkway motor road to block views of Old Agency Road Relocated from adjacent residential and cultural properties.

No occupied structures or other land acquisition would be required for this alternative. Construction costs are estimated at approximately $7.0 million (1999 dollars).

Environmental Consequences

Transportation/Traffic. Under this alternative overall travel patterns would remain about the same as now. While there would be slight changes in road alignments, access would still be provided in all travel directions for each local road. Volume impacts would be minimal since existing roads would be realigned and volumes would be shifted. Safety would be moderately improved by reconfiguring accesses and providing new access points that previously had poor sight distances. Cumulative effects include a potential reduction in commuter traffic on the parkway motor road once other east-west connector streets were constructed.

Cultural Resources. Alternative 1 would cause long-term, moderate adverse impacts to a 0.7 kilometer (0.4 mi.) portion of Old Natchez Trace (Old Agency Road), which is listed on the National Register of Historic Places. The historical significance of this section of Old Agency Road is as Old Natchez Trace and not as the evolved road. Patterns of historic circulation and use, along with character-defining attributes of the road corridor, would be irretrievably lost. Mitigation would include restoring the closed portion of Old Agency Road to Old Trace appearances. The construction of the parkway motor road and Old Agency Road Relocated would result in closing a portion of the Greenwood Plantation access drive, irretrievably altering the historic approach to this property, which is eligible for listing on the national register. The Choctaw Agency site would not be affected by construction.

Natural Resources. Impacts on air quality would be negligible; national ambient air quality standards for carbon monoxide would not be exceeded.

Long-term negligible impacts would occur to soils. Mitigation efforts would be undertaken to prevent soil erosion and to address the expansive characteristics of soils.

Approximately 0.6 hectare (1.5 ac.) of wetlands would be permanently filled for road construction. Long-term, major adverse impacts would occur in three wetland areas, each of which would be reduced by 35% to 40% and the remaining sections fragmented. Road removal could provide opportunities to improve two wetland areas. Developing the remaining parkway motor road sections west of the study area would result in an additional loss of 0.6 hectare (1.5 ac.), for a cumulative wetland impact of 1.2 hectares (3.0 ac.).

Short-term, negligible adverse impacts on water quality would occur from soil and debris being released into unnamed streams. Stormwater discharged into local streams could result in long-term, minor impacts from increased peak flows. The restoration of removed and relocated roads could benefit local hydrologic and drainage patterns.

Road construction would result in the loss of approximately 10.5 hectares (25.8 ac) of vegetation. The revegetation of removed roads would affect approximately 2.2 hectares (5.2 ac.), for a net loss of 8.3 hectares (20.6 ac.) of vegetation. The long-term impact would be moderate to major within the project area. The construction of a multi-use trail within the parkway corridor would cause permanent cumulative loss of vegetation in the local area.

Wildlife impacts in the project area would be minor because regional wildlife populations would not be expected to decrease as a result of the long-term loss of 8.3 hectares (20.6 ac.) of habitat. Ongoing development of the parkway in areas adjacent to this segment could cause minor cumulative effects to some wildlife species because of the loss and fragmentation of existing habitat. No federally listed species are found within the project areas. Impacts to Mississippi species of special concern would be negligible to minor because of potential habitat loss.

Socioeconomic Impacts. This alternative would be consistent with Ridgeland's *Comprehensive Plan* and local transportation plans.

Visual resources would be subject to long-term, major adverse impacts as a result of clearing densely wooded areas and open fields, and changing the visual experience of users of local roads. Views of new roads from adjacent areas would be short term, moderate impacts pending the revegetation of disturbed areas. Completing this section of the parkway would improve the continuity of the visual experience, a long-term, major benefit.

Under alternative 1, the completion of this section of the parkway would enhance the recreational experience for parkway visitors. This would be a long-term, major benefit. Future construction of a multi-use trail would provide a long-term beneficial impact by allowing area residents the opportunity to experience a greater network of open space areas.

Impacts on local residents from vegetation clearing, the intrusion of urban standard roadways (including a bridge), and the proximity of roadways to residential subdivisions would be short-term, moderate impacts. There would be no impact on local accessibility to regional attractions via I-55, with direct connection by way of the Old Agency Road. A multi-use recreational trail would potentially improve the quality of life for local residents.

Noise levels would increase at all sites and residential areas near the new road alignments. These increases would be negligible to minor in the short term and minor to moderate in the long term. The maximum increase would not exceed state guidelines, and all noise levels would be less than the FHWA noise abatement criteria for residential and park areas.

ALTERNATIVE 2 — OLD AGENCY ROAD RELOCATED

Description

Alternative 2 would involve the construction of the parkway motor road with an alignment similar to alternative 1, in which the parkway would cross Old Agency Road at-grade with Old Agency Road closed between Whippoorwill Lane and Richardson Road. The parkway motor road would connect to the parkway to the east by way of a bridge over Highland Colony Parkway. The closed section of Old Agency Road would be restored to Old Trace appearances. To facilitate east/west local traffic movements, a relocated Old Agency Road would be constructed along the southern edge of the parkway right-of-way from Whippoorwill Lane to Highland Colony Parkway, with a new three-way intersection at Highland Colony Parkway. Vehicles would enter and exit the parkway at I-55. Access to the Choctaw Agency Site would be provided directly from the parkway motor road, which would include a parking area for visitors. Access from developments on the north side of the parkway would continue to use Richardson Road and Old Agency Road eastbound to Highland Colony Parkway and I-55.

Construction elements of this alternative include 1.8 kilometers (1.1 mi.) of new parkway motor road, 1.5 kilometers (0.9 mi.) of Old Agency Road Relocated, an access road to the Choctaw Agency site, and access to Brame Road, Dinsmor subdivision, and Greenwood Plantation from Old Agency Road Relocated. Approximately 1.0 kilometer (0.6 mi.) of existing roads (Old Agency Road, Brame Road, and access to the Dinsmor subdivision and Greenwood Plantation) would be removed, revegetated, or restored within the NPS right-of-way.

Natural and cultural resources would be managed as described in alternative 1. The road prism and fill slopes at Old Agency Road Relocated would be designed and constructed to blend into the existing forest cover as much as possible. Known cultural resource locations would be avoided.

No occupied structures or other land acquisition would be required. Construction costs are estimated at approximately $6.0 million (1999 dollars).

Environmental Consequences

Transportation/Traffic. Access for the westbound through-traffic and some local traffic would be relocated, causing adverse impacts on many travel routes. While some travel patterns would change, access would still be provided in all travel directions for each local road. Volume impacts would be moderate, as existing traffic would be split between Old Agency Road and Old Agency Road Relocated. Overall volumes would remain the same. Safety impacts would be moderate. While remaining portions of Old Agency Road would not be improved, Old Agency Road Relocated would be constructed with improved sight distance, grading, and shoulder width.

Cultural Resources. Impacts to Old Natchez Trace (Old Agency Road) would be the same as for alternative 1 — there would be long-term, moderate adverse impacts to a 0.7 kilometer (0.4 mi.) portion of the Old Natchez Trace. Mitigation would include restoring the closed portion of Old Agency Road to Old Trace appearances. The construction of the parkway motor road and Old Agency Road Relocated would result in the closure of the Greenwood Plantation access drive, irretrievably altering the historic approach to this property, which is eligible for listing on the national register. While the Choctaw Agency site would be avoided by road construction, an access drive and visitor parking area would be constructed in the vicinity. The park would undertake appropriate site protection measures to avoid or mitigate potential adverse effects as a result of providing access to the site.

Natural Resources. Impacts on air quality, soils, and water quality would be negligible (the same as alternative 1).

Approximately 0.7 hectare (1.7 ac.) of wetlands would be permanently filled. No adverse impacts would occur to five wetland areas; negligible adverse impacts would occur to one wetland area; moderate, long-term adverse impacts would occur to two wetland areas because of reduction in wetland size; and long-term, major adverse impacts would occur in two wetland areas, each of which would be reduced approximately 35% to 40% and the remaining wetland sections fragmented. Road removal could provide opportunities to improve two wetland areas. Cumulative impacts related to parkway motor road construction to the west would be the same as alternative 1, but the cumulative wetland impact would be 1.3 hectares (3.2 ac.).

Impacts to vegetation would be similar to alternative 1 except approximately 11.5 hectares (28.4 ac.) of vegetation would be lost during construction. Road removal would allow approximately 2 hectares (4.9 ac.) to be restored, for a net loss of 9.5 hectares (23.6 ac.). In comparison to alternative 1, additional pine/oak forest and agricultural fields would be impacted, resulting in a higher net loss.

Impacts on wildlife would be similar to alternative 1, except potential habitat would be reduced by 9.5 hectares (23.6 ac.), a minor impact.

Socioeconomic Impacts. Like alternative 1, this alternative would be consistent with Ridgeland's *Comprehensive Plan* and local transportation plans, except providing access to the Choctaw Agency site would complement local cultural and historic goals.

Similar to alternative 1, there would be long-term, major adverse impacts to visual resources for local users, but completing this section of the parkway would improve the continuity of the viewer experience, a long-term, major benefit.

As in alternative 1, constructing this section of parkway would improve the continuity of the historic scenic motor road, enhancing recreational experiences for parkway visitors, a long-term, major benefit. Providing access and parking directly from the parkway motor road to the Choctaw Agency site would enhance interpretive and recreational opportunities for visitors, also a long-term, major benefit.

Under alternative 2 closing and restoring a portion of Old Agency Road to Old Trace appearances would increase privacy for residents along the northern boundary of the parkway corridor, a long-term, major benefit. Long-term, moderate adverse impacts on local access to regional attractions would occur due to the break in the access to I-55 from Old Agency Road Relocated, requiring the use of Highland Colony Parkway. Short-term, moderate impacts would include vegetation clearance, the intrusion of urban standard roadways, and the proximity of roadways to residential subdivisions. Increased out-of-direction travel for both local access across the parkway corridor and to regional attractions would be a short-term, minor impact.

Noise would increase at all sites and residential areas in the vicinity, similar to alternative 1; increases would be negligible to minor in the short-term and minor to moderate in the long-term.

ALTERNATIVE 3 — OLD AGENCY ROAD RELOCATED / PARKWAY BRIDGE OVER RICHARDSON ROAD EXTENSION

Description

Alternative 3 would involve the construction of the parkway motor road similar to alternative 1 in terms of alignment, with the parkway crossing Old Agency Road at-grade. Under this alternative, however, Old Agency Road between Whippoorwill Lane and Highland Colony Parkway would be closed and restored to Old Trace appearances, and Richardson Road would be extended south under the parkway to connect with Old Agency Road Relocated. Old Agency Road Relocated would be constructed along the southern edge of the parkway right-of-way from Whippoorwill Lane to Highland Colony Parkway to facilitate east/west local traffic movements. Vehicles would enter and exit the parkway at I-55. Like alternative 2, access to the Choctaw Agency site would be provided directly from the parkway motor road, and a parking area would be provided for visitors.

Construction elements of this alternative include 1.8 kilometers (1.1 mi.) of parkway motor road, 1.5 kilometers (0.9 mi.) of Old Agency Road Relocated, an extension of Richardson Road south to Old Agency Road Relocated, a parkway bridge over Richardson Road, a new access road to the Choctaw Agency site, and access to Brame Road, Dinsmor subdivision, and Greenwood Plantation from Old Agency Road Relocated.

For the bridge over Richardson Road extended, the road prism and fill slopes would be designed and constructed to blend into the existing forest cover and natural terrain as much as possible. This treatment would also be provided at Old Agency Road Relocated, as well as along the parkway motor road. Known cultural resource locations would be avoided.

No occupied structures or other land acquisitions would affect construction costs. Construction costs are estimated at approximately $7.0 million (1999 dollars).

Environmental Consequences

Transportation/Traffic. Impacts to access under alternative 3 would be major and adverse. Both travel patterns and access locations would change, a short-term inconvenience for drivers as they adjusted their travel patterns. Over the long-term, travel time would be increased due to removing Old Agency Road and constructing Old Agency Road Relocated. Volume impacts would be major, as all traffic would be shifted from Old Agency Road to Old Agency Road Relocated. Safety would be improved by removing and restoring Old Agency Road, a major positive impact.

Cultural Resources. Impacts to historic sites would be the same as alternative 1 except a 1.4 kilometer (0.9 mi.) portion of Old Agency Road would be closed and restored to Old Trace appearances. At the Choctaw Agency site the park would undertake appropriate site protection measures to avoid or mitigate potential adverse effects as a result of providing access (the same as alternative 2).

Natural Resources. Impacts on air quality, soils, and water quality would be negligible (the same as alternatives 1 and 2).

Approximately 0.7 hectare (1.7 ac.) of wetlands would be permanently filled. No adverse impacts would occur to four wetland areas; negligible adverse impacts would occur to two wetlands, which would be slightly reduced in size; moderate long-term adverse impacts would occur to two wetlands because of reduced size; and long-term, major adverse impacts would occur to two wetlands, each of which would be reduced by 35% to 40% and the remaining sections fragmented. Road removal could provide opportunities to improve two wetlands. Cumulative impacts related to parkway motor road construction to the west would be the same as alternative 1, but like alternative 2, the cumulative wetland impact would be 1.3 hectares (3.2 ac.).

Impacts on vegetation would be similar to alternative 1 except approximately 11.7 hectares (28.8 ac.) would be removed during construction. Removing roads, including all of Old Agency Road within the project area, would allow for approximately 3.6 hectares (8.8 ac.) to be revegetated or restored, resulting in a net loss of 8.1 hectares (20.1 ac.). Compared to alternative 1, less pine/oak forest and more agricultural fields would be impacted, resulting in a similar net loss.

Impacts on wildlife would be similar to alternative 1, except potential habitat would be reduced by 8.1 hectares (20.1 ac.), a minor impact.

Socioeconomic Impacts. As described for alternative 2, this alternative would be consistent with local plans.

Similar to alternatives 1 and 2, there would be long-term, major adverse impacts on visual resources. Under this alternative extending Richardson Road and constructing a parkway bridge would create short-term, moderate impacts pending the revegetation of disturbed areas.

The completion of this section of parkway would improve the continuity of the visual experience for drivers, similar to alternatives 1 and 2.

Impacts on local residents would be short term and moderate, similar to alternatives 1 and 2, except under alternative 3 closing and restoring all of Old Agency Road to Old Trace appearances would increase privacy for residents along the northern boundary of the parkway corridor, a long-term, major benefit. As described for alternative 2, providing no direct access to I-55 from Old Agency Road Relocated would have a long-term, moderate impact on regional accessibility. With the Richardson Road extension there would be no out-of-direction travel.

There would be negligible to minor increases in short-term noise levels, and minor to moderate increases in long-term noise, similar to alternatives 1 and 2.

ALTERNATIVE 4 — OLD AGENCY ROAD RELOCATED / PARKWAY BRIDGE OVER OLD AGENCY ROAD

Description

Alternative 4 would involve the construction of the parkway motor road with an alignment identical to alternative 1. The parkway would bridge over Old Agency Road, which would remain open throughout the entire length of the segment. To facilitate east/west local traffic movements, Old Agency Road Relocated would also be constructed along the southern edge of the parkway right-of-way, from an intersection with Old Agency Road approximately 400 meters (1,312 ft.) east of Whippoorwill Lane to Highland Colony Parkway; a new intersection would also be constructed at Highland Colony Parkway. The parkway bridge over Old Agency Road would be long and skewed; more extensive approach fills would be required so that the parkway would lie closer to the existing ground contour in the location of Brame Road. Vehicles traveling on the parkway would enter and exit at I-55. Access to the Choctaw Agency site would be provided directly from the parkway motor road, and a parking area would be provided for visitors (the same as alternatives 2 and 3).

Construction elements of this alternative include 1.8 kilometers (1.1 mi.) of new parkway motor road, 1.5 kilometers (0.9 mi.) of Old Agency Road Relocated, a parkway bridge over Old Agency Road, a new access road to the Choctaw Agency site, and access to Brame Road, the Dinsmor subdivision, and Greenwood Plantation from Old Agency Road Relocated. Approximately 0.3 kilometer (0.2 mi.) of existing roadways would be removed and revegetated within the NPS right-of-way.

Natural and cultural resources would be managed as described in alternative 1. For the bridge over Old Agency Road, the road prism and fill slopes would be designed and constructed to blend into the existing forest cover and natural terrain as much as possible. This treatment would also be provided at Old Agency Road Relocated, as well as along the parkway motor road. Known cultural resource locations would be avoided.

No occupied structures or other land acquisitions would be required. Construction costs are estimated at approximately $7.5 million (1999 dollars).

Environmental Consequences

Transportation/Traffic. Impacts to access under alternative 4 would be moderate. There would be short-term, adverse impacts as drivers became familiar with new travel patterns. Over the long term access would be provided to all local roads. Changes in travel time, due to rerouting, would be minor over the long term. Volume impacts would be moderate as a portion of traffic on Old Agency Road would shift to Old Agency Road Relocated. Improvements to safety would be minor since Old Agency Road would remain open. Less than 2,000 vehicles per day would be shifted to Old Agency Road Relocated, which would not be enough to improve safety conditions on Old Agency Road.

Cultural Resources. Under alternative 4 a grade-separated parkway motor road would preserve the segment of Old Natchez Trace / Old Agency Road within the project area and protect it from disturbances otherwise accompanying an at-grade crossing. Constructing a parkway overpass would nevertheless visually intrude on the historical setting of the road corridor, resulting in a major adverse effect. Removing a portion of the Greenwood Plantation access drive would alter the historic approach to this property, a moderate adverse impact (the same as alternatives 1, 2, and 3). At the Choctaw Agency site the park would undertake appropriate site protection measures to avoid or mitigate potential adverse effects as a result of providing access (the same as alternatives 2 and 3).

Natural Resources. Impacts on air quality, soils, and water quality would be negligible, the same as alternatives 1, 2, and 3.

Approximately 0.7 hectare (1.7 ac.) of wetlands would be permanently filled. No adverse impacts would occur to five wetland areas; negligible adverse impacts would occur to one wetland; moderate, long-term impacts would occur to two wetlands because of reduced wetland sizes; and major, long-term adverse impacts would occur to two wetlands, each of which would be reduced approximately 35% to 40% and the remaining sections fragmented. Like alternatives 2 and 3, cumulative effects resulting from developing the parkway section to the west would total 1.3 hectares (3.2 ac.).

Impacts on vegetation would be similar to alternative 1, with construction resulting in the loss of approximately 11.1 hectares (27.5 ac.). Removing some roads would allow approximately 0.4 hectare (1.0 ac.) to be revegetated, for a net loss of 10.7 hectares (26.5 ac.). Compared to alternative 1, additional areas of late successional and agricultural fields would be impacted because Old Agency Road would not be removed and restored.

Impacts on wildlife would be similar to alternatives 1, 2, and 3, except potential habitat would be reduced by 10.7 hectares (26.5 ac.), a minor impact.

Socioeconomic Impacts. This alternative would be consistent with local plans, as described for alternatives 2 and 3.

Similar to alternatives 1, 2, and 3, there would be long-term, major adverse impacts on visual resources. Under this alternative a higher and longer parkway bridge (including larger earth fill embankments) over Old Agency Road would create long-term, major impacts.

Like the other alternatives, completing this section of the parkway would enhance recreational experiences for parkway users, a long-term, major benefit. Like alternatives 2 and 3, providing access directly from the parkway motor road to the Choctaw Agency site, as well as parking, would enhance interpretive and recreational opportunities, a long-term, major beneficial impact.

Impacts on local residents would be greater than alternative 1, 2, or 3 due to the bridge being longer and higher, resulting in additional vegetative clearance, and the proximity of roadways to residential subdivisions. Like alternatives 2 and 3, there would be long-term, moderate adverse impacts on local access to regional attractions without direct access to I-55 from Old Agency Road Relocated. Many existing access routes to local destinations across the parkway corridor would be retained under alternative 4, requiring minimal out-of-direction travel.

Noise impacts would be the same as alternative 1, even though Old Agency Road would remain open from Highland Colony Parkway to near Whippoorwill Lane. There would be negligible to minor increases in the short term, and minor to moderate increases in the long term.

ALTERNATIVE 5 — PROPOSED ACTION (MODIFIED 1978 DESIGN): OLD AGENCY ROAD RELOCATED / BRIDGE OVER PARKWAY

Description

Alternative 5, the National Park Service's proposed action, would involve the construction of the parkway with an alignment similar to alternative 1 (no action). The parkway motor road would cross Old Agency Road at-grade, with Old Agency Road closed and restored to Old Trace appearances between Whippoorwill Lane and Richardson Road. To facilitate east/west local traffic movements, Old Agency Road Relocated would be constructed along the southern edge of the parkway right-of-way between Whippoorwill Lane and midway between Richardson Road and Brame Road. It would angle north at Richardson Road, passing over the parkway motor road to connect with existing Old Agency Road in the vicinity of the St. Andrew's School parking lot. Old Agency Road Relocated would cross over the parkway motor road approximately 150 meters (492 ft.) east of Richardson Road. At this crossing the parkway motor road would be placed in a 3.9 to 4.6 meter (12 to 14 ft.) deep cut section through a rise in topography, allowing the construction of a low-profile bridge over the parkway motor road. Brame Road would be realigned to intersect with Old Agency Road Relocated. Access to the Choctaw Agency Site would be provided directly from the parkway motor road, which would include a parking area for visitors (the same as alternatives 2, 3, and 4).

Construction elements of this alternative include 1.8 kilometers (1.1 mi.) of new parkway motor road, 1.1 kilometers (0.7 mi.) of Old Agency Road Relocated, a low-profile bridge over the parkway motor road, the extension of Brame Road, and access to the Dinsmor subdivision and Greenwood Plantation. Like alternative 1, roadway improvements to Old Agency Road to accommodate variations in traffic movements from an improved Old Agency Road Relocated segment would be considered in consultation with the city of Ridgeland and the Mississippi Department of Archives and History. Approximately 1.1 kilometers (0.7 mi.) of existing roadways would be removed and revegetated within the NPS right-of-way.

Natural and cultural resources would be managed as described in alternative 1. The Old Agency Road Relocated crossing over the parkway motor road and road prism cut slopes would be designed and constructed to blend with the forest cover as much as possible. Known cultural resource locations would be avoided.

No occupied structures or other land acquisition would be required. Construction cost for this alternative are estimated at approximately $7.0 million (1999 dollars).

Environmental Consequences

Transportation/Traffic. Impacts would be the same as alternative 1. Impacts to access would be minor. Volume impacts would be minimal since traffic would be shifted to new road alignments. Safety would be moderately improved by reconfiguring existing accesses and the construction of new access points that previously had poor sight distances.

Cultural Resources. Impacts to Old Natchez Trace (Old Agency Road) would be the same as in alternative 1. Patterns of historic circulation and use, along with character-defining attributes of the road corridor, would be irretrievably lost. Mitigation would include restoring the closed portion of Old Agency Road to Old Trace appearances. The construction of the parkway motor road and Old Agency Road Relocated would result in the closure of the Greenwood Plantation access drive, irretrievably altering the historic approach to this property, which is eligible for listing on the national register. At the Choctaw Agency site the park would undertake appropriate site protection measures to avoid or mitigate potential adverse effects as a result of providing access (the same as in alternatives 2, 3, and 4).

Natural Resources. Impacts on air quality, soils, and water quality would be negligible, the same as the other alternatives.

Impacts to wetlands would be similar to alternative 1, with approximately 0.6 hectare (1.4 ac.) of wetlands being permanently filled. No adverse impacts would occur to six wetland areas; negligible adverse impacts would occur to one wetland; long-term major adverse impacts would occur to three wetlands, with each wetland being reduced at least 25% and the remaining wetland sections being fragmented. Removing portions of roads could provide opportunities to improve wetland systems in two wetlands. Cumulative impacts associated with developing the remaining sections of parkway motor road to the west would impact 1.2 hectares (3.0 ac.), similar to alternative 1.

Vegetation impacts would be similar to alternative 1, except approximately 11.3 hectares (27.8 ac.) of vegetation would be removed during construction. Removing roads would allow approximately 2.2 hectares (5.2 ac.) to be revegetated, for a net loss of 9.1 hectares (22.5 ac.).

Like the other alternatives, wildlife impacts would be minor. Potential habitat would be decreased by 9.1 hectares (22.5 ac.).

Socioeconomic Impacts. This alternative would be consistent with local plans, as described for alternatives 2, 3, and 4.

Similar to the other alternatives there would be long-term, major adverse impacts on visual resources. Placing the parkway motor road in a cut section through a rise in topography to cross under Old Agency Road Relocated would be a minor visual impact, although it would interrupt the visual continuity of the parkway experience. The completion of this section of parkway would improve the continuity of the visual experience, a long-term, major benefit (similar to the other alternatives).

Like the other alternatives, completing this section of the parkway motor road would improve the continuity of the historic scenic roadway, enhancing the recreational experience for parkway visitors.

Impacts on local residents would be similar to alternative 1. Short-term, moderate impacts would include vegetation clearance, the intrusion of urban standard roadways, and the proximity of roadways to residential subdivisions. As described for alternative 1, there would be no impact on local accessibility to regional destinations via I-55.

Noise impacts would be the same as alternative 1. A lower road-grade where the parkway motor road cut through the existing topography would have minimal effects on traffic-related noise.

PUBLIC REVIEW PROCESS AND NEXT STEPS

This *Draft Supplemental Environmental Impact Statement* will be on public review for 60 days. The National Park Service will prepare a *Final Supplemental Environmental Impact Statement* to respond to comments and to incorporate new information as necessary as a result of public comments. The final document will be distributed for a 30-day no-action period, after which a record of decision will be prepared to document the selected alternative and set forth any stipulations for implementing the approved construction plan.

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PURPOSE OF AND NEED FOR ACTION

The Natchez Trace Parkway was established in 1938 to commemorate the Old Natchez Trace, a primitive network of trails that stretched from Natchez, Mississippi, to Nashville, Tennessee. The historic Old Natchez Trace, which frequently followed uplands between watersheds where land was drier and stream crossings less frequent, was the principal overland link between the Old Southwest Territory on the lower Mississippi River and the United States during the late 18th and early 19th centuries.

Designed to follow the alignment of the historic trace as closely as the requirements of modern road construction allow, the Natchez Trace Parkway will, upon completion, extend diagonally from Natchez to Nashville, a distance of approximately 716 kilometers (444 mi.).

Today, two segments of the parkway comprising about 32 kilometers (20 mi.) remain unfinished. One segment is between U.S. Highways 84 and 98 and the city of Natchez, Mississippi, site of the parkway's planned southern terminus; this segment accounts for somewhat less than half of the unfinished distance. The other segment extends from I-20 in Hinds County, Mississippi, to I-55 in Madison County, Mississippi; this segment accounts for the majority of the unfinished distance. A shorter portion of this segment, a 1.8 kilometer (1.1 mi.) portion known as section 3P13 within the city of Ridgeland is the focus of this document.

The completion of the parkway motor road by the National Park Service (NPS) has been underway for more than 60 years. The construction of this short segment, combined with other construction projects between I-20 and I-55 (which are in-progress or are being planned), would allow recreational driving on the entire parkway without users having to detour through the greater metropolitan area of Jackson, Mississippi. The parkway's 1987 *General Management Plan* ranks the completion of the parkway motor road as one of its most prominent management objectives.

This *Draft Supplemental Environmental Impact Statement* will be on public review for 60 days. A final document will be prepared by the National Park Service to respond to or incorporate new information and the results of analyses provided through public comments on the draft document. The final document will be distributed, and after a 30-day no-action period a record of decision will be prepared. This will document the selected alternative and set forth any stipulations for implementing the approved construction plan, thus completing the process required by the National Environmental Policy Act.

DESCRIPTION OF THE NATCHEZ TRACE PARKWAY

National parkways, which are authorized by a special act of Congress, are elongated parks that feature roads designed for pleasure traveling, that provide a motoring experience through a rural or natural setting, and that embrace scenic, recreational, or historic features of national significance. A national parkway, which has sufficient merit and character to make it a national attraction and not merely a means of travel from one place to another, has limited access from adjoining properties, and no commercial traffic is allowed.

Establishment of the Natchez Trace Parkway

On May 21, 1934, Public Law 73-240 was enacted, which directed the National Park Service to undertake a survey of the historic Old Natchez Trace that would "estimate the cost of construction of an appropriate national parkway over this route" and to collect information "with the objective of determining matters concerning the construction of the Natchez Trace Parkway." Barely four years later on May 28, 1938, Public Law 75-530 established Natchez Trace Parkway and assigned its administration and maintenance to the National Park Service. The parkway is an elongated park of 51,150 acres covering a distance of 444 miles between Natchez, Mississippi, and Nashville, Tennessee.

The Natchez Trace Parkway, in addition to Skyline Drive through Shenandoah National Park and the Blue Ridge Parkway, was partly a product of the parkway movement of the 1930s, when automobiles were becoming the primary form of transportation in the United States. The construction of these national parkways not only helped relieve unemployment during the Great Depression but also affirmed that American society's dependence on automobiles had resulted in a need for scenic roadways uninterrupted by cross traffic or modern intrusions.

Primary Parkway Experience

The fact that a national parkway is a distinct type of highway was clearly identified in 1938 when the National Park Service established the following eight design criteria that would be used to distinguish national parkways. National parkways

(1) are designated for noncommercial, recreational use

(2) seek to avoid unsightly buildings and other roadside developments that mar the ordinary highway

(3) are built with a much wider right-of-way to provide an insulating strip of park land between the parkway motor road and the abutting private property

(4) eliminate frontage and access rights and preserve natural scenic values

(5) preferably take a new alignment, bypassing built-up communities and avoid traffic congestion

(6) seek to make accessible the best scenery in the country they traverse, hence the shortest or most direct route is not necessarily a primary consideration

(7) eliminate major grade crossings (crossing intersections with the parkway motor road itself)

(8) have entrance and exit points spaced at distant intervals to reduce interruptions to the main traffic flow

In fulfilling the legislative intent of the Natchez Trace Parkway the National Park Service designed the parkway motor road to provide a moderate speed, narrow road driving experience. The intimate way in which the parkway motor road blends with the natural landscape — the wide right-of-way, minimum width of the pavement, the grass shoulders and woodlands, natural areas, and agrarian fields that line the roadway corridor — contributes to the visual experience of traveling, which is the primary park experience for motorists visiting it.

The parkway right-of-way width averages about 260 meters (825 feet) along its entire length, ranging from 122 meters to 305 meters (400 to 1,000 feet) in width. Wider areas occur at irregular intervals and are commonly associated with recreational and management facilities. Facilities for public use are provided at intervals along the parkway motor road. There are parking pullouts at trailheads, overlooks, and interpretive sites. Visitor facilities include comfort stations, picnic tables, campgrounds, and other facilities. Interpretive exhibits are located at points of scenic, scientific, archeological, and historic interest, including sections of the Old Natchez Trace.

Parkway Construction Segments

For purposes of land acquisition, the parkway motor road was divided into sections, with section 1A at the northern terminus at Nashville, Tennessee, and section 3X at the southern terminus at Natchez, Mississippi. The numbers 1, 2, and 3 of the section names refer to the states of Tennessee, Alabama, and Mississippi, respectively; letters indicate parkway motor road segments within each state in a north to south progression. Today two portions of the parkway motor road comprising about 32 kilometers (20 mi.) of its total length remain unfinished in Mississippi. The sections within which these unfinished portions occur are section 3P (running from I-20 to U.S. Highway 51 in Hinds and Madison Counties) and section 3X (extending from the southern terminus in the city of Natchez to near U.S. Highway 61 in Adams County).

The Natchez Trace Parkway has been under construction since the late 1930s. The first section of the parkway motor road was completed adjacent to Ridgeland, Mississippi, in 1939. Throughout this long development period, the parkway's design guidelines have remained relatively constant, giving the entire route continuity in layout, design, construction, maintenance, and visitor experience. The design criteria grew to include both those applicable to all NPS national parkways and three additional criteria specific to the Natchez Trace Parkway. These additional specific design criteria include (1) a curvilinear road alignment with minimum grades; (2) design of bridges and other developed features to minimize visual contrast against the national parkway landscape; and (3) the grade separation of the parkway motor road from other public roads crossing park lands, with the parkway motor road preferentially crossing over such public roads.

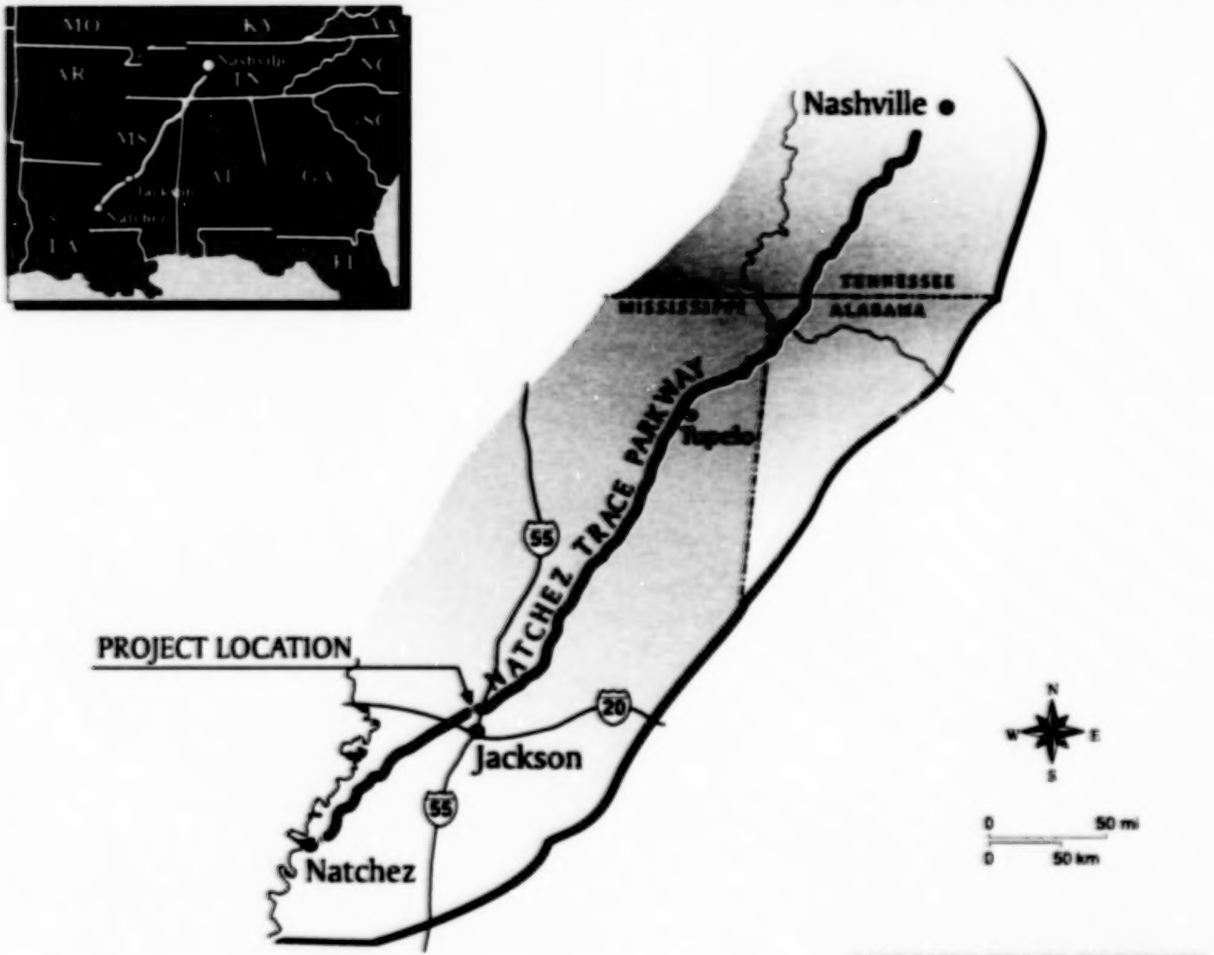
Setting

The national parkway typically traverses rural or natural landscapes, and it is designed to provide parkway visitors a leisurely and scenic motoring experience. To accomplish this, the parkway motor road maintains a wide right-of-way to sustain natural vegetation and landforms. The roadway is designed to rest lightly on the land and to be respectful of natural topography by minimizing cuts and fills. It has a low speed limit, low traffic volumes, and low development density. The route for the parkway motor road was selected to skirt cities, towns, and high-density developed areas, accessing them by widely separated, unobtrusive interchanges and access roads. There are no stop signs on the parkway motor road, though there are stop signs along its route to control access on and off the parkway motor road. The parkway motor road is not intended to serve commuter traffic, and commercial traffic is prohibited. The parkway motor road also links federal, state, local, and private cultural and historic sites along its length.

Land uses along the route have evolved since 1938 and have shaped in some measure the national parkway visitor experience. Conversely, the acquisition of the lands for and development of the parkway motor road have influenced nearby land uses in varying degrees due to the location of national parkway access and egress points, the need to provide services to parkway motor road travelers, and the desire to provide a particular visitor experience. To maintain the recreational experience afforded national parkway visitors consistent with the parkway's purpose, the portion of the parkway motor road proposed for construction in this document must be consistent with NPS and national parkway design requirements.

The Natchez Trace Parkway today preserves the history associated with one of the country's earliest trails and provides scenic, cultural, natural, and recreational opportunities to 13 million visitors annually. The parkway motor road traverses three distinct types of scenic terrain. Along the northern portions the landscape is typified by hilly country with exposed limestone; along the center portion forested areas dotted with agricultural lands predominate; and along the southern portions oak trees draped with Spanish-moss characterize the parkway around Natchez. About two-thirds of the parkway motor road is in Mississippi.

THE REGION



NATCHEZ TRACE PARKWAY

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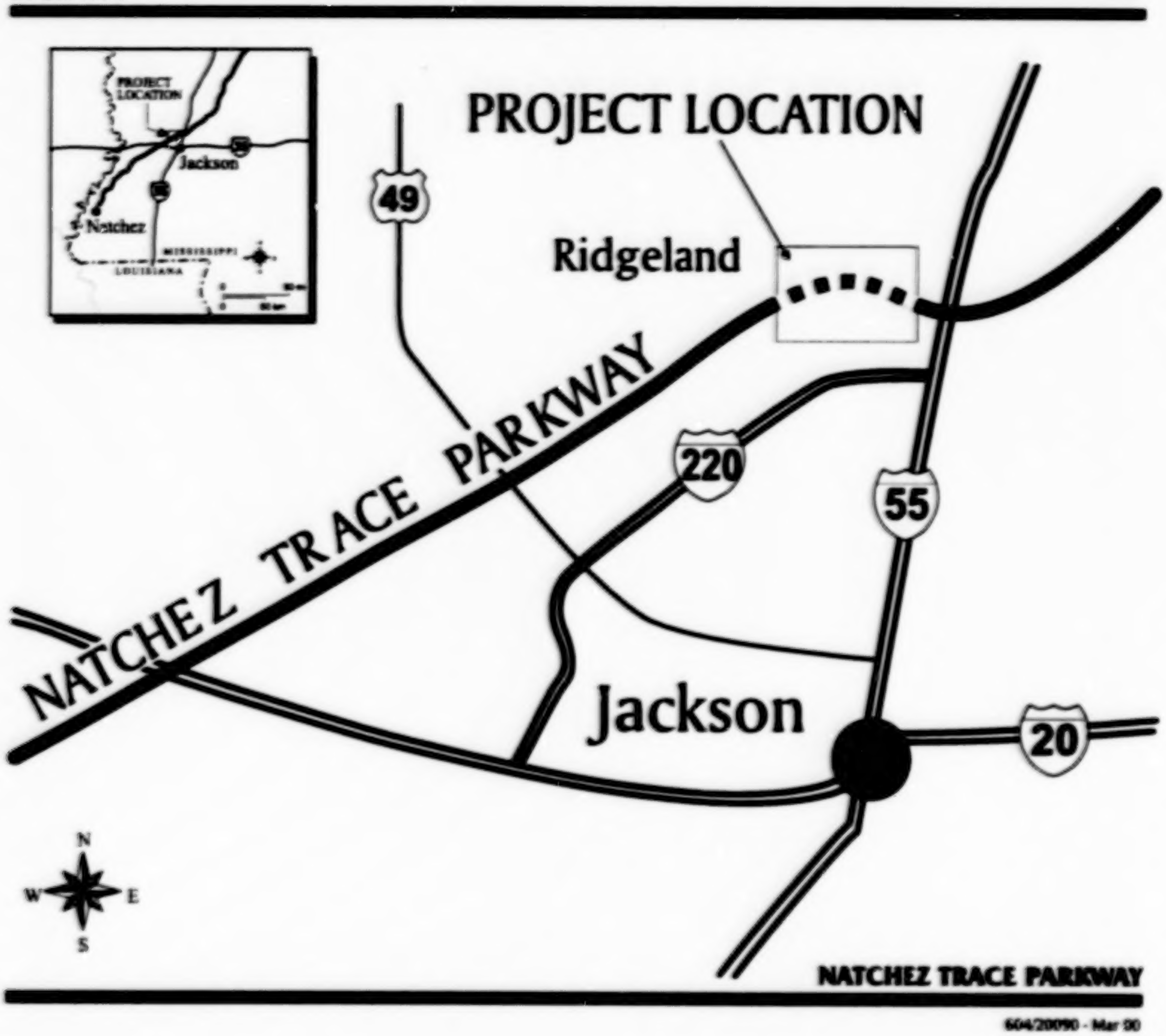
VICINITY



PLANNING HISTORY OF THE OLD AGENCY ROAD SECTION

The Natchez Trace Parkway — Section 3P13

Planning for parkway construction between I-20 and I-55 through portions of Hinds and Madison Counties, Mississippi, has been ongoing for several decades. Since 1937 an alignment closely following that of the Old Natchez Trace has been used to guide land acquisition for this portion of the parkway. The general alignment of the Natchez Trace Parkway to be completed around Jackson, Mississippi (section 3P), was approved with concurrence of the Hinds and Madison County Road Commissioners on December 16, 1965, within the section 3P *Public Road System Plan.*

Land acquisition for section 3P was completed in 1967 when the lands acquired by the state of Mississippi for parkway purposes were transferred to the federal government. The resulting parkway alignment and acquired lands cross portions of the Old Natchez Trace, which had been assimilated into contemporary local public roads at three locations. These crossings of the parkway alignment affect two short portions of Old Agency Road in Madison County (one included within the study area;

the other 2.25 miles to the southwest within a portion of the parkway partially constructed in the 1990s), and a longer 0.6-mile segment of Cynthia Road at U.S. Highway 49 in Hinds County.

The relocation of portions of local public roads, specifically the portion of Old Agency Road that would be affected by parkway construction within the study area, has been considered and evaluated by the National Park Service, Madison County, and the city of Ridgeland. Several of the proposed parkway construction designs have been incorporated into the alternatives presented in this document for consideration and review by the public.

A brief chronology of the planning history for section 3P is presented below.

1967 The right-of-way for section 3P of the Natchez Trace Parkway was deeded to the United States by the state of Mississippi. This included Old Agency Road.

According to the *Public Road System Plan*, which was part of the deed conveyance, a section of the existing Old Agency Road was to be closed. A replacement roadway within the parkway boundary (Old Agency Road Relocated) was to be constructed south of the parkway motor road. The closed section of Old Agency Road was to be restored as the Old Natchez Trace.

1974 Portions of the Old Natchez Trace in Mississippi were nominated to the National Register of Historic Places by the National Park Service.

1978 A *Final Environmental Impact Statement* (FEIS), dated March 7, 1978, was issued by the National Park Service to address all remaining construction segments of the Natchez Trace Parkway, including section 3P. At that time it was proposed for section 3P to construct the parkway motor road across Old Agency Road at-grade, returning the severed sections of Old Agency Road to original Old Natchez Trace appearances and constructing new roads to connect the severed city streets.

The Mississippi state historic preservation officer concurred with the *Final Environmental Impact Statement*. The restoration and maintenance of portions of the Old Natchez Trace, including Old Agency Road, were covered in the statement.

1980 A memorandum of agreement between the Advisory Council on Historic Preservation and the National Park Service stipulated that the Park Service was to prepare an Old Natchez Trace multiple resource nomination for the restored segments prior to completing the parkway motor road (see appendix C).

1987 The *General Management Plan* for the Natchez Trace Parkway was approved. The 1978 *Final Environmental Impact Statement* is referenced in that plan, and subsequently a "Record of Decision" was prepared.

1988 The Mississippi Department of Archives and History certified Old Agency Road as a Mississippi landmark (that portion of Old Agency Road located within the boundary of the Natchez Trace Parkway is excluded from the state landmark status).

A conveyance of easements was exercised with the developer of the Dinsmor subdivision, and a subsequent memorandum of agreement was entered into. The memorandum underscores the National Park Service's intention to relocate Old Agency Road and to close the Dinsmor crossing access to the subdivision from the north. It was signed by the Advisory

Council on Historic Preservation, the Mississippi state historic preservation officer, and the Madison County Board of Supervisors, as well as the National Park Service.

Also in 1988 Natchez Trace Parkway staff met with Ridgeland elected officials and staff to discuss preliminary plans for the parkway motor road construction in the Old Agency Road area. They discussed a plan calling for the parkway motor road to cross Old Agency Road at-grade. A half-mile section of Old Agency Road from Whippoorwill Lane east to Richardson Road would be closed and restored as Old Natchez Trace. A new roadway section, Old Agency Road Relocated, would be constructed adjacent to the southern parkway boundary, as the 1967 deed stipulated.

1995 The Old Natchez Trace and the Choctaw Agency site were listed on the National Register of Historic Places.

1998 Natchez Trace Parkway staff initiated the Old Agency Road Area *Draft Supplemental Environmental Impact Statement,* which will update the 1978 *Final Environmental Impact Statement.*

Planning Issues and Concerns — Scoping Summary

In response to controversy concerning the design of parkway construction and changes to existing roadways within the study area, the National Park Service announced in the *Federal Register* on August 3, 1998, its intent to prepare a supplemental environmental impact statement. This included the opening of a 60-day public scoping period, during which comments could be provided to the National Park Service in an effort to help identify the issues and concerns that should be considered in the environmental analysis process.

In conjunction with this scoping period, the National Park Service held a public meeting in Ridgeland, Mississippi, on August 27, 1998. Written comments were also received. These comments were recorded, categorized by issue or opportunity, and evaluated for use in developing preliminary alternatives. The major scoping issues and opportunities, organized by subject topic, are summarized below. For additional information in regard to public involvement activities, refer to the "Consultation and Coordination" chapter of this document.

Accommodate future east-west travel demand in the corridor.

Allow for increased demand from development planned to the west of Ridgeland.

Facilitate access to Highland Colony Parkway and I-55.

Preclude the use of the Natchez Trace Parkway for local and commuter travel (minimize impacts on parkway visitors).

Improve local safety conditions.

Provide adequate roadway design for projected needs and users.

Provide separate pedestrian and bicycle facilities.

Maintain local accessibility.

Minimize nonlocal traffic on local streets.

Minimize out-of-direction travel for local access.

Facilitate access between neighborhoods and local destinations.

Preserve the history and aesthetics of the area.

Maintain opportunities for scenic driving.

Preserve the history of the Old Natchez Trace in the area.

Preserve trees and vegetation in the area.

Protect community values.

Minimize noise impacts and privacy intrusions.

Minimize effects to air quality.

Preserve the rural atmosphere along the parkway.

Protect the quality of existing views from neighborhoods.

Provide opportunities for accommodating the public need for local parks.

Provide a high-quality design for Natchez Trace facilities.

Minimize the taking of trees and vegetation.

Provide extensive landscape buffer planting.

Utilize natural appearing materials.

Locate facilities to minimize impacts and utilize natural features.

Develop a multi-use trail to connect historic sites.

Develop the project consistent with previous planning decisions.

Accommodate the 1994 NPS alignment decision.

Accommodate the 1988 NPS temporary north access agreement (Dinsmor).

Accommodate the 1988 National Park Service / Advisory Council on Historic Preservation et al. memorandum of agreement (new access to Old Agency Road).

Provide Natchez Trace facilities within reasonable costs.

RELATIONSHIP OF THIS PLANNING EFFORT TO OTHER AREA PROJECTS

Natchez Trace Parkway

Parkway bridges over the Highland Colony Parkway and U.S. 49 (several miles southwest of the study area) are currently being constructed.

The construction of realigned accesses between the parkway motor road and I-55 (approximately 1.25 miles northeast of the study area) will begin in early 2000.

Grading and earthwork of the parkway motor road between I-20 and U.S. 49 (several miles southwest of the study area) are under way.

Asphaltic concrete surface will be placed on the parkway motor road from I-20 to I-55 (includes the parkway through the study area). Six bridges will be constructed on the parkway section between I-20 and U.S. 49, which are now in the planning stage.

The replacement of parkway motor road bridges over Old Canton Road and Rice Road (2.0 miles and 3.25 miles northeast of the study area) are also planned.

Multi-Use Trail

A total of 33.2 km (21 mi.) of paved trail are proposed on national parkway lands by the *Natchez Trace Parkway Comprehensive Trail Plan.* In the greater Jackson, Mississippi, metropolitan area, the trail would be a continuous segment between I-20 and I-55. The initial 2.9 km (1.8 mi.) segment between U.S. 51 and Old Canton Road is currently under construction (1.25 miles northeast of the study area), with approximately 2.0 km (1.2 miles) planned within the parkway right-of-way in the study area.

Mississippi Department of Transportation

The replacement of the parkway motor road bridge over I-55, as part of the interstate highway improvements by the Mississippi Department of Transportation, is scheduled to begin in early 2001.

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ALTERNATIVES, INCLUDING THE PROPOSED ACTION

The alternatives analyzed in this *Draft Supplemental Environmental Impact Statement* are the result of planning efforts conducted over the past two years for parkway motor road construction at Old Agency Road (section 3P13) in the vicinity of Jackson, Mississippi. Studies conducted in 1998 considered 16 conceptual alternatives for the parkway motor road and local public roads on parkway land, which were evaluated and presented for public review and comment in November 1998. These conceptual alternatives were based on comments and recommendations provided by the public during the scoping phase of this planning process.

Following public review and NPS evaluation of the conceptual alternatives, four concepts were determined to be most consistent with the proposed project's purpose. Criteria used to evaluate and select these alternatives included the legislated purpose of the parkway, national parkway design criteria, engineering feasibility, sustainability, readily evident major adverse impacts on the quality of the human environment, and public comment received to date. These four concepts were further refined and are analyzed in this *Draft Supplemental Environmental Impact Statement* as alternatives 1, 2, 3, and 4. Alternative 1 is the alternative that was originally proposed in the 1978 *Final Environmental Impact Statement;* it is included in this document as the no-action alternative to provide a baseline for comparing the other alternatives. Alternative 5 is the proposed action; it is a modification of the 1978 design and was defined for detailed evaluation following the review and analysis of additional public comments received on the public newsletters. The conceptual alternatives that were eliminated from consideration are discussed later in this chapter under "Alternatives Considered But Not Analyzed in Detail" (see page 28).

Each of the alternatives considered (including no action) would complete 1.8 kilometers (1.1 mi.) of the parkway motor road, would consider options for the treatment of Old Agency Road (Old Natchez Trace), would accommodate future east/west local traffic, and would provide access to adjacent residential neighborhoods. Design elements for the parkway motor road are discussed on page 21, followed by mitigations for special resource concerns. At the end of this chapter the alternatives are summarized in table 2, and the environmental consequences are summarized in table 3.

ALTERNATIVE 1 — NO ACTION (1978 DESIGN): PARKWAY BRIDGE OVER OLD AGENCY ROAD RELOCATED

This alternative is the no-action alternative because it would construct the parkway motor road (section 3P13) as proposed in the 1978 *Final Environmental Impact Statement.* The parkway motor road would cross Old Agency Road (Old Natchez Trace) approximately at-grade and closely follow existing contours except for where it would be elevated on a bridge over Old Agency Road Relocated. The parkway motor road would connect to a bridge over Highland Colony Parkway, which is currently being constructed. Vehicle access to and from the parkway would be at I-55. There would be no access to the Choctaw Agency site under this alternative due to the proximity of the proposed parkway bridge and Old Agency Road Relocated.

Old Agency Road would be closed from near Whippoorwill Lane to Richardson Road; the closed portion would be restored to Old Trace appearances (that is, the asphalt road surface would be removed, the area would be graded to drain, planted with turf grasses, and kept mowed). The trace would be interpreted for the public through a standard Old Trace identification marker next to the parkway motor road.

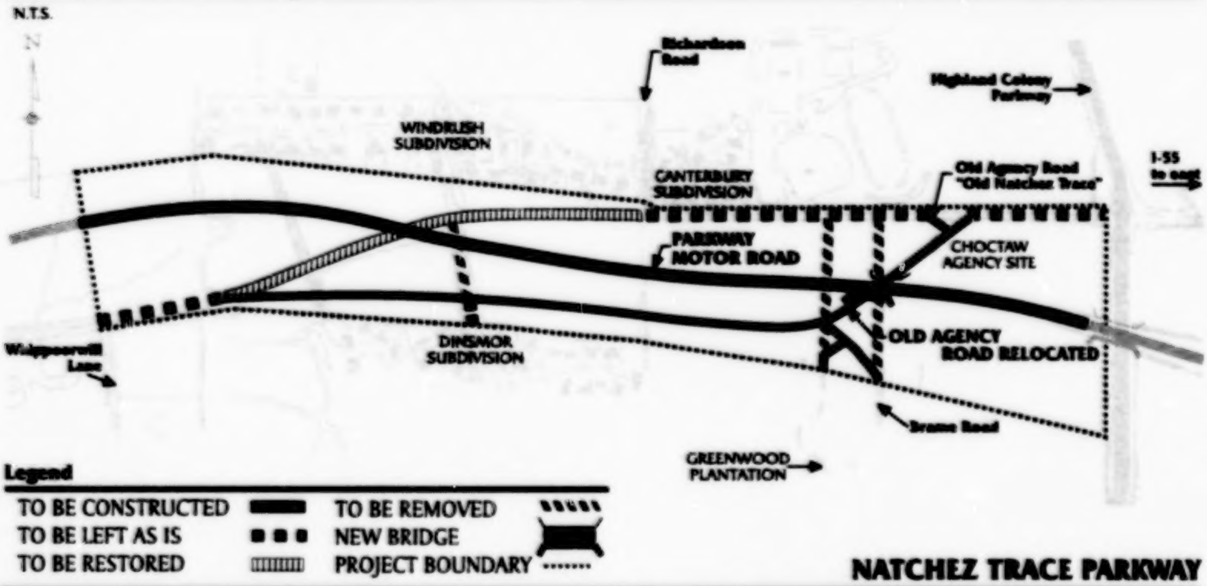
To provide access and circulation for local through-traffic from adjacent residential areas, Old Agency Road Relocated would be constructed south of the parkway motor road between Whippoorwill Lane and Brame Road. Brame Road would be shortened and realigned to intersect with Old Agency Road Relocated. Old Agency Road Relocated would angle north at Brame Road, passing under the parkway motor road to connect with the existing Old Agency Road in the vicinity of the Choctaw Agency site. Old Agency Road Relocated would not connect to Highland Colony Parkway because this road was neither planned for nor constructed in 1978. Access to I-55 would be via Old Agency Road. New access drives to the Dinsmor subdivision and Greenwood Plantation from Old Agency Road Relocated would be provided (see the alternative 1 plan).

Construction

The major construction elements of this alternative would include the following:

- 1.8 kilometers (1.1 mi.) of new parkway motor road, including related drainage structures or culverts
- a parkway motor road bridge over Old Agency Road Relocated
- 1.4 kilometers (0.9 mi.) of Old Agency Road Relocated
- entrance to the Dinsmor subdivision from Old Agency Road Relocated
- entrance to the Greenwood Plantation from Brame Road extended
- reconstruction of a short segment of Brame Road south of Old Agency Road Relocated

ALTERNATIVE 1 — NO ACTION (1978 DESIGN): PARKWAY BRIDGE OVER OLD AGENCY ROAD RELOCATED



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Roadway improvements to Old Agency Road east to Highland Colony Parkway would accommodate variations in traffic movements from an improved Old Agency Road Relocated segment and would be considered in consultation with the city of Ridgeland and the Mississippi Department of Archives and History (the state historic preservation office).

Approximately 1.1 kilometers (0.7 mile) of roads would be removed and revegetated, including the following:

> Old Agency Road from approximately Whippoorwill Lane to Richardson Road (restored to Old Trace appearances)
>
> Brame Road within the existing parkway motor road right-of-way
>
> a short portion of the northern entrance to the Dinsmor subdivision from Old Agency Road within the NPS right-of-way
>
> a portion of the access drive to Greenwood Plantation within the NPS right-of-way

Natural and Cultural Resources

Natural and cultural resources would be managed in accordance with the park's *Resource Management Plan*. Existing forest cover would be retained wherever possible to provide visual screening and noise buffers. Additional vegetative buffers would be planted along the parkway motor road to restrict views of Old Agency Road Relocated from adjacent residential and cultural properties. This would also help maintain the integrity of the parkway motor road character. The bridge structure, road prism, and fill slopes at Old Agency Road Relocated would be designed and constructed to blend into the existing forest cover as much as possible. Cut and fill slopes along the new segment of parkway motor road would also be blended into the natural terrain.

Known cultural resource locations such as the Choctaw Agency site would be avoided. A portion of Old Agency Road Relocated would pass through the site, as shown in the alternative 1 plan; however, during design the alignment would be shifted to avoid the site. In 1978, when this alternative was developed, the boundaries of the Choctaw Agency site were not known.

Mitigations for special resource concerns are presented on page 24.

Construction Costs

No occupied structures or other land would have to be acquired under this alternative. Estimated construction costs are approximately $7.0 million (1999 dollars).

ALTERNATIVE 2 — OLD AGENCY ROAD RELOCATED

In alternative 2 the parkway motor road would cross a closed section of Old Agency Road approximately at-grade, the same as alternative 1. The motor road would closely follow the contour of existing ground except where it connected to the bridge over Highland Colony Parkway (currently under construction). Vehicles traveling on the parkway would enter and exit at I-55. Access to the Choctaw Agency site would be provided directly from the parkway motor road, and a parking area would be provided for visitors.

Like alternative 1, Old Agency Road would be closed from near Whippoorwill Lane to Richardson Road; the closed portion would be restored to Old Trace appearances. The trace would be interpreted for the public by placing a standard Old Trace identification marker next to the parkway motor road.

To provide access and circulation for local through-traffic from adjacent residential areas under this alternative, Old Agency Road Relocated would be constructed south of the parkway motor road between Whippoorwill Lane and Highland Colony Parkway. A new three-way intersection would also be provided at Highland Colony Parkway. Access from the residential area on the south to Highland Colony Parkway would be provided via Old Agency Road Relocated. Access from developments on the north side of the parkway motor road would continue to use Richardson Road and Old Agency Road eastbound to Highland Colony Parkway and I-55 (see the alternative 2 plan).

Construction

Construction elements of this alternative include the following:

1.8 kilometers (1.1 mi.) of new parkway motor road, including fill embankments, excavations, and related drainage structures or culverts

1.5 kilometers (0.9 mi.) of Old Agency Road Relocated

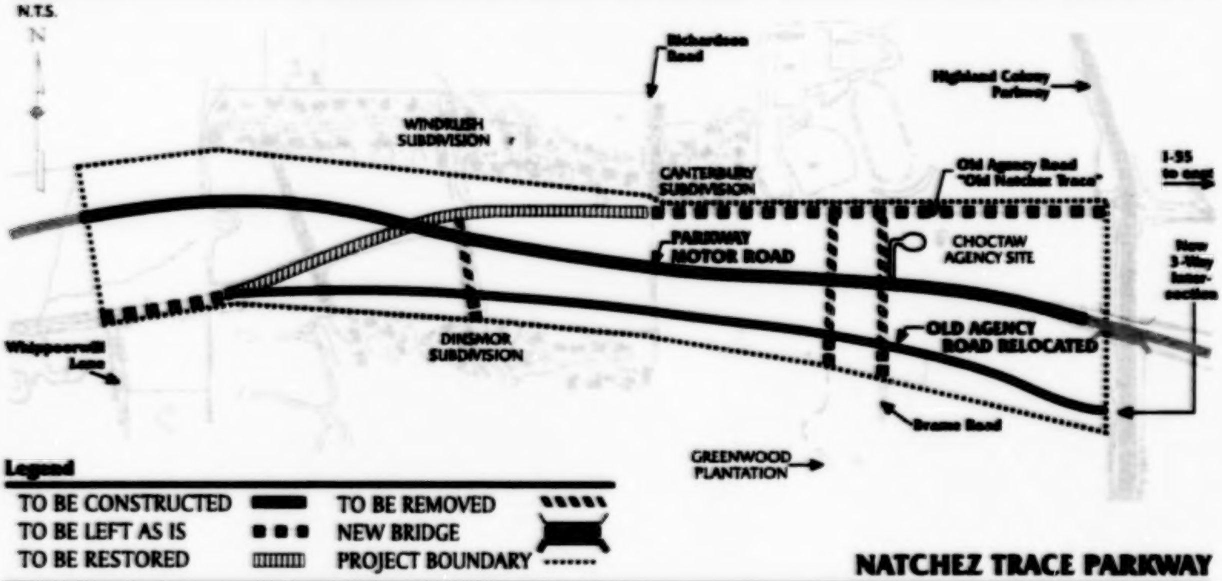
an access road to the Choctaw Agency site

a three-way intersection to connect Old Agency Road Relocated and Highland Colony Parkway

entrances to the Dinsmor subdivision and Greenwood Plantation

reconnection of Brame Road south of Old Agency Road Relocated

ALTERNATIVE 2 — OLD AGENCY ROAD RELOCATED



NATCHEZ TRACE PARKWAY

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Approximately 1.0 kilometer (0.6 mile) of existing roadways would be removed and revegetated, including the following:

> a portion of the existing Old Agency Road between Whippoorwill Lane and Richardson Road (restored to Old Trace appearances)
>
> Brame Road within the NPS right-of-way north of Old Agency Road Relocated
>
> the northern entrances to the Dinsmor subdivision and Greenwood Plantation north of Old Agency Road Relocated

Natural and Cultural Resources

Natural and cultural resources would be managed as described in alternative 1. Additional vegetative buffers would be planted along the parkway motor road to restrict views of Old Agency Road Relocated. This would also help maintain the integrity of the parkway motor road character. The road prism and fill slopes at Old Agency Road Relocated would be designed and constructed to blend into the existing forest cover as much as possible. Cut and fill slopes along the new segment of parkway motor road would also be blended into the natural terrain.

Known cultural resource locations would be avoided. An access road from the parkway motor road to a parking area adjacent to the Choctaw Agency site would be provided. Mitigations for special resource concerns are presented later in this chapter (see page 24).

Construction Cost

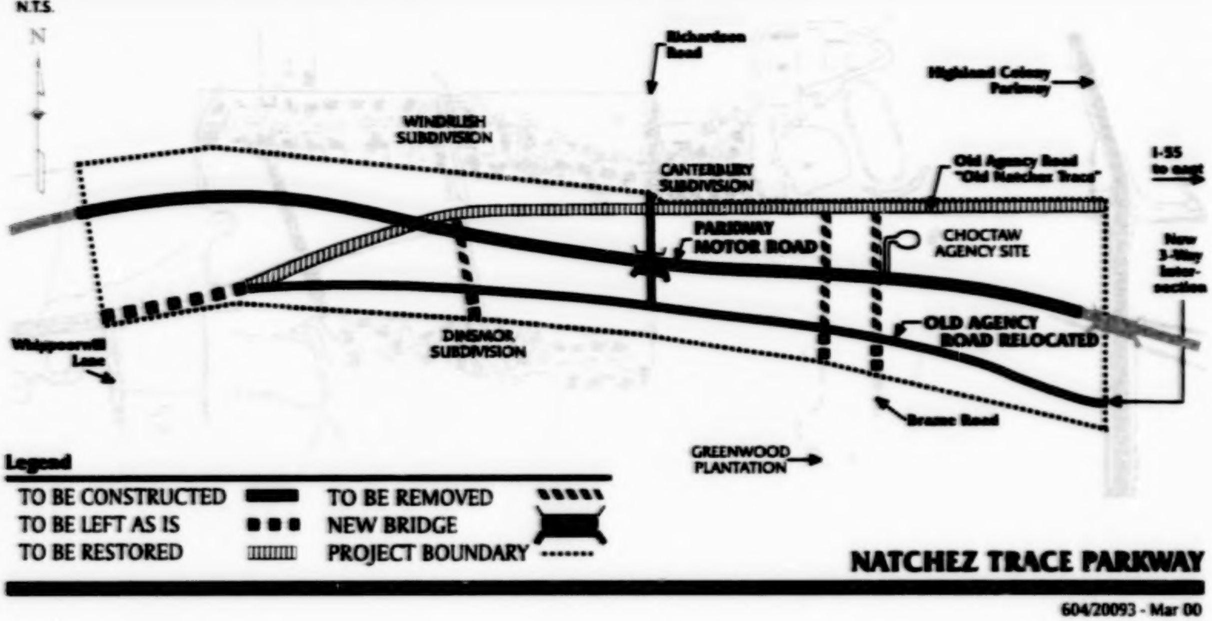
No acquisition of occupied structures or other land would be required under this alternative. Estimated construction costs are approximately $6.0 million (1999 dollars).

ALTERNATIVE 3 — OLD AGENCY ROAD RELOCATED / PARKWAY BRIDGE OVER RICHARDSON ROAD EXTENSION

The horizontal alignment of the parkway motor road in alternative 3 would be identical to alternative 1; it would cross a closed section of Old Agency Road approximately at-grade and closely follow the contour of existing ground except where it would be elevated to bridge over an extension of Richardson Road. The parkway motor road would connect to the bridge over Highland Colony Parkway (under construction). Vehicles traveling on the parkway would enter and exit at I-55. Like alternative 2, access to the Choctaw Agency site would be provided directly from the parkway motor road, and a parking area would be provided for visitors.

Old Agency Road would be closed from near Whippoorwill Lane to Highland Colony Parkway and restored to Old Trace appearances. Like alternatives 1 and 2, the trace would be interpreted for the public by placing a standard Old Trace identification marker next to the parkway motor road.

To provide access and circulation for local through-traffic from adjacent residential areas, Old Agency Road Relocated would be constructed south of the parkway motor road between Whippoorwill Lane and Highland Colony Parkway. A three-way intersection would be provided at Highland Colony Parkway. Access from developments on the north side of the parkway motor road would use Richardson Road, Richardson Road Extension, and Old Agency Road Relocated eastbound to Highland Colony Parkway (see the alternative 3 plan).



Construction

Construction elements of this alternative include the following:

1.8 kilometers (1.1 mi.) of new parkway motor road, including related drainage structures or culverts

the extension of Richardson Road south to Old Agency Road Relocated

a parkway bridge over the Richardson Road extension

1.4 kilometers (0.9 mi.) of Old Agency Road Relocated

a three-way intersection at Old Agency Road and Highland Colony Parkway

a new access road to the Choctaw Agency site

entrances to the Dinsmor subdivision and Greenwood Plantation

reconnection of Brame Road south of Old Agency Road Relocated

Approximately 1.75 kilometers (1.1 miles) of existing roadway would be removed and revegetated, including the following:

Old Agency Road from near Whippoorwill Lane to Highland Colony Parkway (restored to Old Trace appearances)

a portion of Brame Road within the NPS right-of-way north of Old Agency Road Relocated

the northern entrances into the Dinsmor subdivision and Greenwood Plantation north of Old Agency Road Relocated

Natural and Cultural Resources

Natural and cultural resources would be managed as described for alternative 1. Additional vegetative buffers would be planted along the parkway motor road to restrict views of Old Agency Road Relocated. For the bridge over the extension of Richardson Road, road prism and fill slopes would be designed and constructed to blend with the forest cover as much as possible. The road prism and fill slopes at Old Agency Road Relocated, as well as the parkway motor road, would also be designed and constructed to blend into the forest cover and natural terrain as much as possible.

Known cultural resource locations would be avoided. Mitigations for special resource concerns are presented later in this chapter (see page 24).

Construction Costs

No occupied structures or other land would have to be acquired under this alternative. Estimated construction costs are approximately $7.0 million (1999 dollars).

ALTERNATIVE 4 — OLD AGENCY ROAD RELOCATED / PARKWAY BRIDGE OVER OLD AGENCY ROAD

The horizontal alignment of the parkway motor road in alternative 4 would be identical to alternative 1, but under this alternative Old Agency Road would remain open. The parkway motor road would follow the natural contours except it would be elevated where it bridges over Old Agency Road; the parkway would lie closer to the existing ground contour in the location of Brame Road. The parkway motor road would connect to the bridge over Highland Colony Parkway (currently under construction). Vehicle access to the parkway would be via I-55. Like alternatives 2 and 3, access to the Choctaw Agency site would be provided directly from the parkway motor road, and a parking area would be provided for visitors.

Like alternatives 2 and 3, Old Agency Road Relocated would be constructed south of the parkway motor road between Whippoorwill Lane and Highland Colony Parkway to provide access and circulation for local through-traffic from adjacent residential areas. A new three-way intersection would be provided at both Highland Colony Parkway and Old Agency Road Relocated.

Access from developments on the north side of the parkway motor road would use Richardson Road and Old Agency Road eastbound to Highland Colony Parkway. Access to the Dinsmor subdivision, Greenwood Plantation, and Brame Road would be provided from Old Agency Road Relocated (see the alternative 4 plan).

Construction

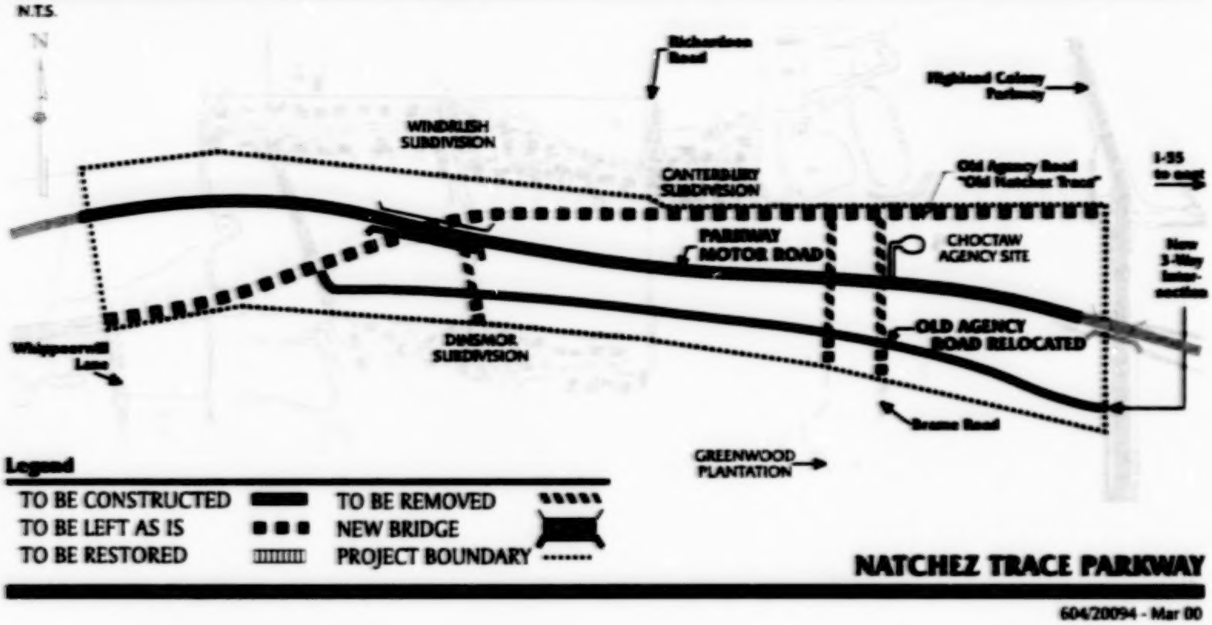
Construction elements of this alternative include the following:

1.8 kilometers (1.1 mi.) of new parkway motor road, including related drainage structures or culverts

a parkway bridge over Old Agency Road

1.4 kilometers (0.9 mi.) of Old Agency Road Relocated

ALTERNATIVE 4 — OLD AGENCY ROAD RELOCATED / PARKWAY BRIDGE OVER OLD AGENCY ROAD



a new access road to the Choctaw Agency site

entrances to the Dinsmor subdivision and Greenwood Plantation

reconnecting Brame Road south of Old Agency Road Relocated

Approximately 0.3 kilometer (0.2 mile) of existing roadways would be removed and revegetated, including the following:

Brame Road within the NPS right-of-way north of Old Agency Road Relocated

the northern entrances into Dinsmor subdivision and Greenwood Plantation north of Old Agency Road Relocated

Natural and Cultural Resources

Natural and cultural resources would be managed as described in alternative 1. Additional vegetative buffers would be planted along the parkway motor road to restrict views of Old Agency Road Relocated. For the bridge over existing Old Agency Road, the road prism and fill slopes would be designed and constructed to blend with the forest cover as much as possible. The road prism and fill slopes at Old Agency Road Relocated, as well as the parkway motor road, would also be designed and constructed to blend into the forest cover and natural terrain as much as possible.

Known cultural resource locations would be avoided. Mitigations for special resource concerns is presented later in this chapter (see page 24).

Construction Costs

No occupied structures or other land would have to be acquired under alternative 4. Estimated construction cost are approximately $7.5 million (1999 dollars).

ALTERNATIVE 5 — PROPOSED ACTION (MODIFIED 1978 DESIGN): OLD AGENCY ROAD RELOCATED / BRIDGE OVER PARKWAY

Alternative 5 would involve the construction of the parkway motor road with a horizontal alignment identical to alternative 1. The parkway motor road would cross a closed section of Old Agency Road approximately at-grade. However, under this alternative Old Agency Road Relocated would follow a different alignment and would bridge over the parkway motor road approximately 150 meters (492 ft.) east of Richardson Road. At this crossing the parkway motor road would be placed in an approximately 3.9 to 4.6 meter (12 to 14 ft.) deep cut section through a rise in topography, which would allow Old Agency Road Relocated to cross over the parkway motor road close to existing grade on a low-profile bridge. The bridge orientation (north/south vs. east/west in the other alternatives) would also decrease its visibility to parkway neighboring subdivisions. Like alternatives 2, 3, and 4, access to the Choctaw Agency site would be provided directly from the parkway motor road, and a parking area would be provided for visitors.

Old Agency Road would be closed from near Whippoorwill Lane to Richardson Road; the closed portion would be restored to Old Trace appearances. Like alternatives 1, 2, and 3, the trace would be restored to Old Trace appearances and interpreted for the public by placing a standard Old Trace identification marker next to the parkway motor road.

To provide access and circulation for local through-traffic from adjacent residential areas, Old Agency Road Relocated would be constructed south of the parkway motor road, but under this alternative it would extend from Whippoorwill Lane only to Brame Road; Old Agency Road Relocated would not connect to Highland Colony Parkway. Old Agency Road Relocated would angle north at Richardson Road, passing over the parkway motor road to connect with existing Old Agency Road in the vicinity of the St. Andrew's School parking lot. Brame Road would be realigned to intersect with Old Agency Road Relocated just south of the proposed bridge. Access to I-55 would be provided via Old Agency Road. Entrance to the Dinsmor subdivision would be provided from Old Agency Road Relocated, and entrance to the Greenwood Plantation would be provided from Brame Road extended (see the alternative 5 plan).

Roadway improvements to Old Agency Road east to Highland Colony Parkway would accommodate variations in traffic movements from an improved Old Agency Road Relocated segment and would be considered in consultation with the city of Ridgeland and the Mississippi Department of Archives and History (the state historic preservation office).

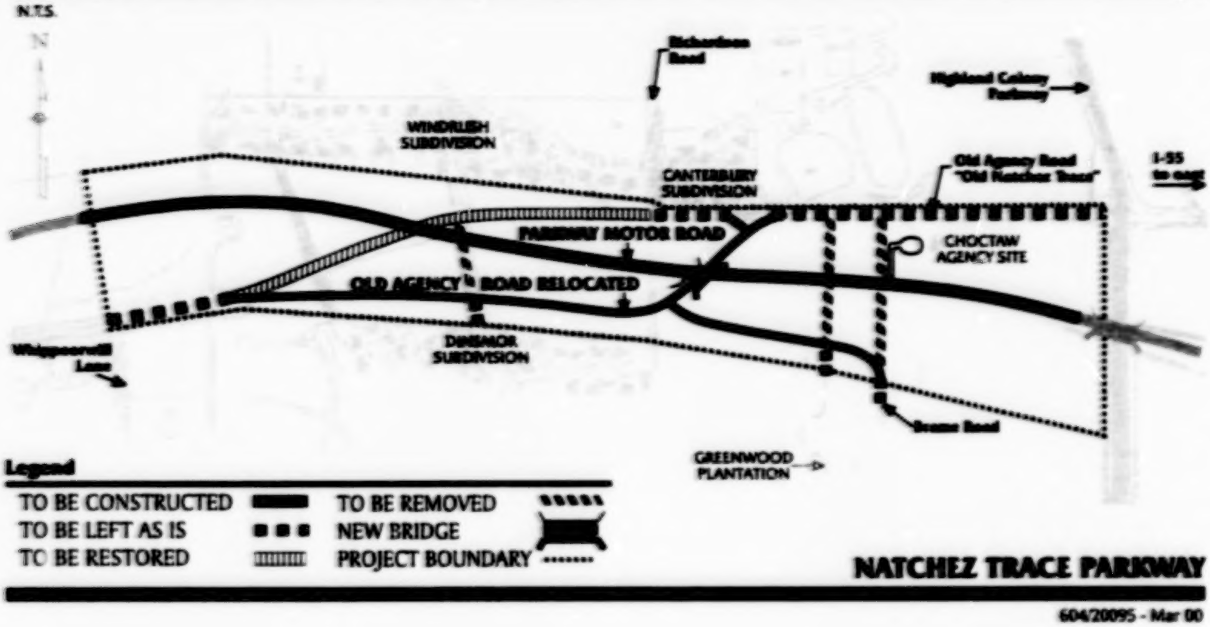
Construction

Construction elements of this alternative include the following:

1.8 kilometers (1.1 mi.) of new parkway motor road, including related drainage structures or culverts

1.1 kilometers (0.7 mi.) of new construction of Old Agency Road Relocated

ALTERNATIVE 5 — PROPOSED ACTION (MODIFIED 1978 DESIGN): OLD AGENCY ROAD RELOCATED / BRIDGE OVER PARKWAY



bridge construction over the parkway motor road as part of Old Agency Road Relocated

realignment of Brame Road and its connection to Old Agency Road Relocated

entrance to the Dinsmor subdivision from Old Agency Road Relocated

entrance to the Greenwood Plantation from Brame Road extended

Approximately 1.1 kilometers (0.7 miles) of existing roadway would be removed and revegetated, including the following:

Old Agency Road from near Whippoorwill Lane to Richardson Road (restored to Old Trace appearances)

Brame Road within the NPS right-of-way

a short portion of the northern entrance to the Dinsmor subdivision north of Old Agency Road Relocated

a portion of the access drive to Greenwood Plantation north of Brame Road extended

Natural and Cultural Resources

Natural and cultural resources would be managed as described in alternative 1. Additional vegetative buffers would be planted along the parkway motor road to restrict views of Old Agency Road Relocated. The bridge structure over the parkway motor road for Old Agency Road Relocated and road prism cut slopes would be designed and constructed to blend with the existing forest cover as much as possible. The road prism and fill slopes at Old Agency Road Relocated and the parkway motor road would also be designed and constructed to blend into the existing forest cover and natural terrain as much as possible.

Known cultural resource locations would be avoided. An access road from the parkway motor road to a parking area adjacent to the Choctaw Agency Site would be provided.

Construction Costs

No occupied structures or other land would be acquired under alternative 5. Estimated construction costs are approximately $7.0 million (1999 dollars).

PARKWAY DESIGN

By design, the parkway motor road is intended to offer a pleasurable visitor experience without disrupting the natural, cultural, or socioeconomic environment. The following design descriptions apply to all parkway alternatives.

The proposed parkway motor road, section 3P13, would consist of two paved travel lanes, each 3.35 meters (11 ft.) wide. The total paved travel lane width would be 6.7 meters (22 ft.). The pavement would typically consist of an aggregate base 25 centimeters (10 in.) deep beneath 12.5 centimeters (5.0 in.) of hot-mix asphaltic concrete. Site conditions could cause slight variations in these depths.

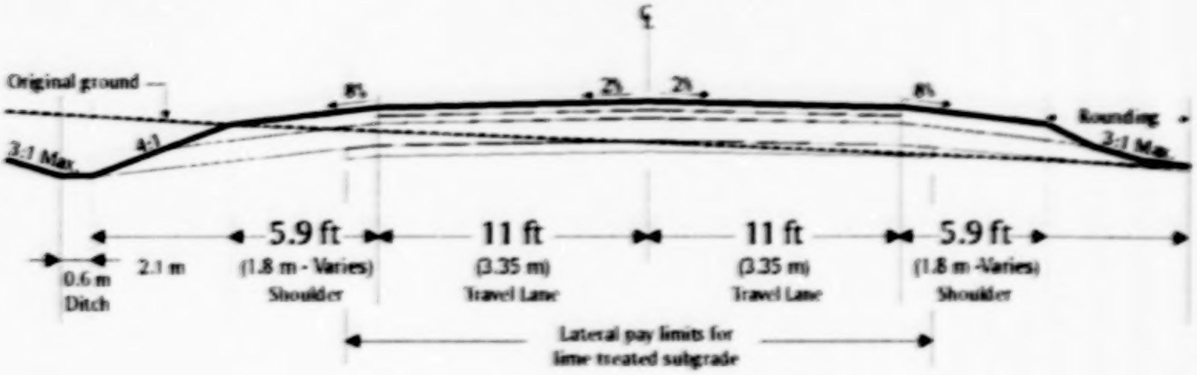
Shoulders would not be paved, but instead would consist of a mixture of topsoil and aggregate to support grass cover. These grass shoulders would be 1.8 meters (6 ft.) wide. The cut-and-fill slopes would normally have a maximum slope ratio of 3:1 (see Typical Parkway Cross Section).

The posted speed limit is 80 kilometers per hour (50 mph), except it would be decreased to 72 kilometers per hour (45 mph) as it approached I-55 in Ridgeland.

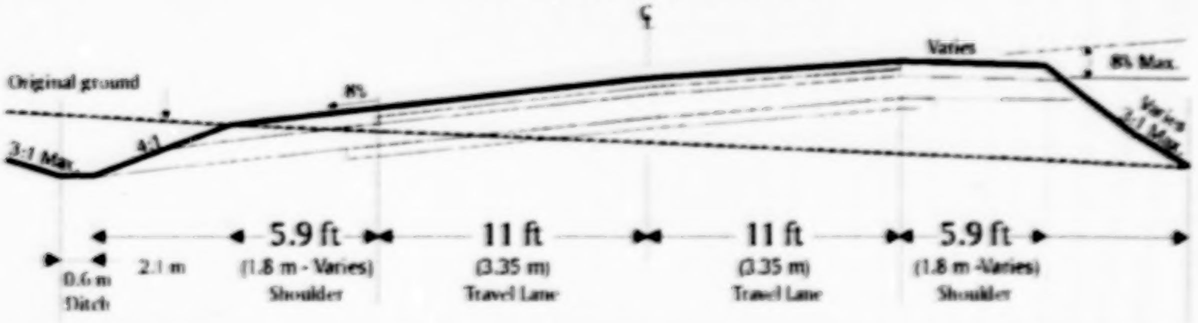
For most of its length, the parkway motor road would remain approximately at-grade. The intent is to allow the parkway motor road to lie "lightly on the land," following the existing terrain as closely as possible, with the understanding that substantial cuts and fills would be required to accommodate the design speed. It would cross drainageways and local roads using a variety of structures ranging from simple pipe culverts to bridges. Bridges, piers, and abutments would typically be concrete. Where aesthetics dictate, bridges would be specially designed utilizing special forms, materials, and detailing.

TYPICAL PARKWAY MOTOR ROAD — CROSS SECTION

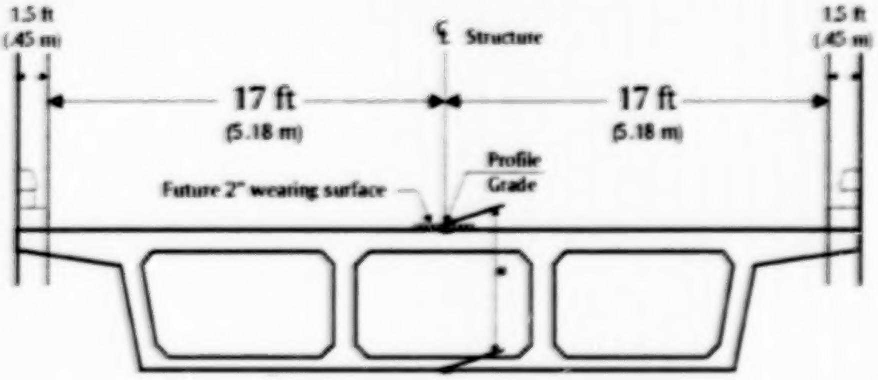
TANGENT SECTION



SUPERELEVATED SECTION



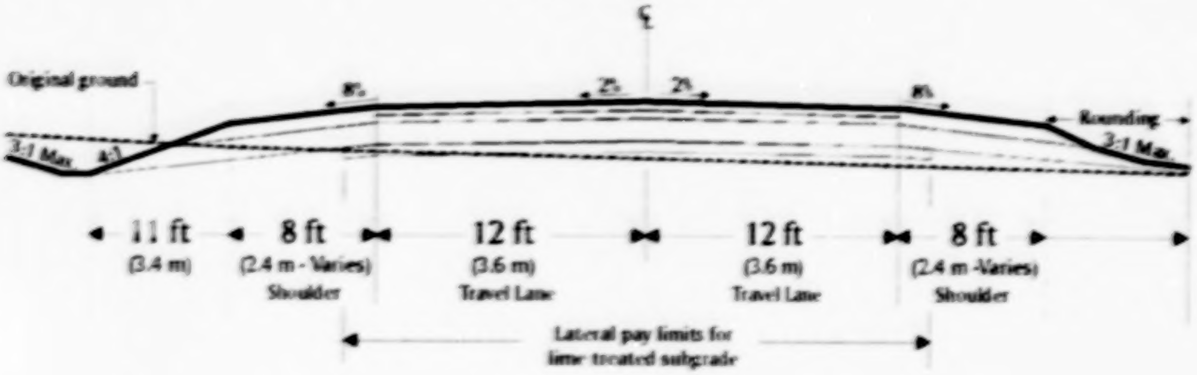
TYPICAL PARKWAY BRIDGE — CROSS SECTION



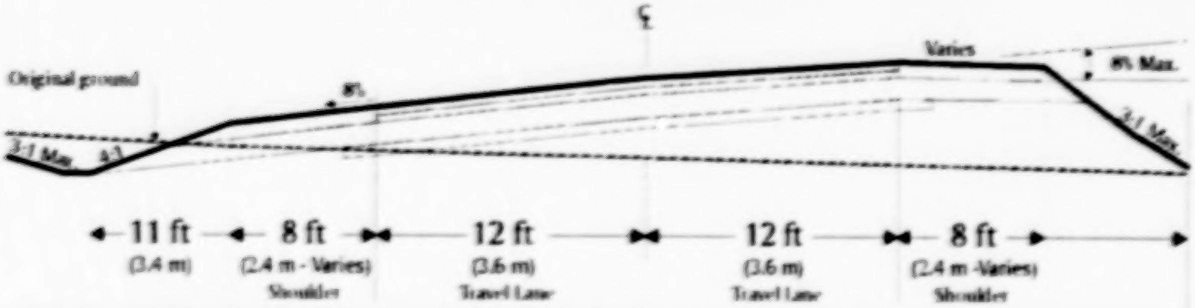
* Depth varies along length of structure

TYPICAL OLD AGENCY ROAD RELOCATED — CROSS SECTION

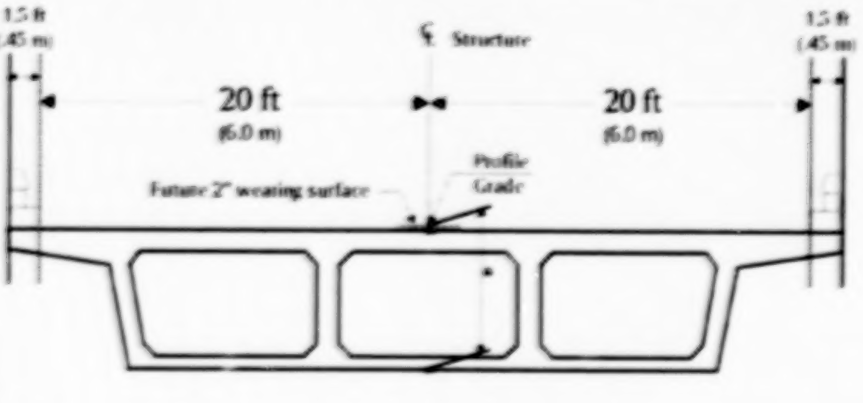
TANGENT SECTION



SUPERELEVATED SECTION



TYPICAL BRIDGE AT OLD AGENCY ROAD RELOCATED — CROSS SECTION



* Depth varies along length of structure

MITIGATIONS FOR SPECIAL RESOURCE CONCERNS

Construction Practices

The National Park Service would flag boundaries for vegetation clearing before work began. These limits are typically 4.6 meters (15 ft.) beyond the rounding of cut-and-fill slopes. Vegetation and other material outside the construction boundary would be disturbed only in the case of selective clearing. Vegetation to be saved would be flagged prior to clearing. Most cleared materials would be removed for disposal offsite. Small timber might be chipped, in which case the chips would be spread evenly over the ground or mounded for use as erosion filters. There would be no burning of any type of material.

With the National Park Service's approval, the construction contractor would select staging areas for vehicles, equipment, and materials. These areas would be at previously disturbed portions of the right-of-way or offsite.

Proposed parklands are generally cleared of as many utilities as possible before construction. Deed-reserved utility easements are provided for city and county utilities. However, all utilities within the parkway boundary would be placed underground, if possible. Deed-reserved easements would be provided for access to private residences, for city streets, and for county or state roads. For safety reasons, no at-grade crossings of the parkway motor road by other roadways would be permitted.

Traffic and Noise

A traffic control plan would be prepared to minimize the impacts of construction on Old Agency Road, Highland Colony Parkway, Richardson Road, Brame Road, and the entrances to the Dinsmor subdivision and Greenwood Plantation. Plan implementation would be coordinated with the city of Ridgeland and Madison County through the development of a traffic monitoring plan. Old Agency Road Relocated and new roadway extensions for local use would be constructed before closing or removing any roads. Local residents would be notified of road closures in advance. If parkway construction noise became intrusive, standard construction noise abatement procedures, such as time-of-day work restrictions, could be considered.

Cultural Resources

The National Park Service would implement appropriate measures to mitigate the adverse effects anticipated on historic properties as a consequence of project construction. The restoration of the Old Natchez Trace segment to an early 19th century appearance (as proposed under alternatives 1, 2, 3, and 5) would serve to mitigate the adverse effects of the parkway crossing by providing visitors the experience of a cultural landscape representative of that existing at the time of the Trace's primary period of significance. Because the road's current character-defining features would be altered or lost, other mitigation measures, such as appropriate photo-documentation, would be evaluated and implemented to provide an archival record of Old Agency Road's current appearance. Photo-documentation would also serve to mitigate adverse effects on the Greenwood Plantation access drive resulting from its proposed closure and disturbance by road crossings.

Appropriate screening of new construction by tree/vegetation plantings would serve in part to mitigate the visual intrusion of new construction on the historic setting. It would also serve to dampen the audible effects of traffic noise (of particular concern where the parkway motor road and Old Agency Road Relocated would pass near Greenwood Plantation and the Dinsmor subdivision).

The project area has been assessed for the presence of archeological resources, and the Choctaw Agency site and the adjacent archeological site would be avoided by construction disturbance. If construction in the project area unearthed previously unknown archeological resources, all work would be stopped in that area, and the National Park Service would consult with the Mississippi Department of Archives and History and the Advisory Council on Historic Preservation, under the terms of the 1995 programmatic agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers and in accordance with 36 CFR 800.11.

In compliance with the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001), the National Park Service would also notify and consult with concerned tribal representatives for the proper treatment of human remains or funerary and sacred objects, if they were discovered. All workers would be informed of the penalties for illegally collecting artifacts or intentionally damaging any archeological or historic property. Workers would also be informed of the proper procedures in the event previously unknown resources were uncovered during construction.

Natural Resources

Air Quality

Dust would be controlled by the use of water spread by water trucks. No chemical or petroleum-based dust palliatives would be used.

Soils

The parkway motor road, Old Agency Road Relocated, and new access routes (where applicable) would be constructed through soils classified as silt loams, which have low strength for streets and roads. Low strengths result because the subsoil and underlying clayey material shrinks and swells with seasonal changes in moisture and occasional flooding. To mitigate these effects, a number of steps would be undertaken. All roadway cuts in excess of 0.75 meter (2.5 ft.) would be sampled to a depth of 0.9 meter (3 ft.) below the design subgrade of the roadway. Expansive materials would not be used to construct roadway embankments and would be disposed of outside the roadway construction limits. In addition, where expansive soils were encountered, the roadway would be subexcavated to a depth of 40 centimeters (16 in.) from ditch line to ditch line. The subexcavated surface would then be sealed with moisture barrier fabric to stabilize the moisture content of the subgrade and backfilled with 45 centimeters (18 in.) of aggregate base to structurally support roadway pavement over the expansive subsurface materials. Roadway areas that did not require such mitigation techniques would be stabilized with hydrated lime to minimize seasonal shrink/swell factors (for soils that are clayey but do not meet the definition of "expansive").

Stockpiled topsoil, after having been stripped, would be placed in low windrows along cut-and-fill slopes or other locations. All excess materials or materials unsuitable for reuse would be removed from government property for legal disposal. Construction fill and aggregate would be imported from outside sources.

Erosion and Sediment Control

Erosion and the resulting sediment transport have a variety of potential adverse effects relating to soils, biological productivity, water quality, and aquatic and terrestrial species.

In general, the standard mitigation for controlling soil erosion would be based on "Soil Erosion Control," section 157 in *Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects* (FP-96). Special provisions would be added as necessary based on site-specific conditions. The Federal Highway Administration would prepare a site-specific erosion control plan for the selected alternative and would submit it to the state to obtain an erosion control permit. The plan would detail specific erosion and sediment control measures to be used at specific sites during road construction.

Appropriate erosion control practices would likely include revegetation (seeding); using silt fences, matting, netting, sandbags, and straw bales to contain sediment; allowing natural reestablishment of vegetation cover over denuded areas; and using mulches and cover crops as protective covering for exposed soils. Additional prevention techniques would include the use of silt fencing and the creation of low-gradient slopes where possible. Where necessary, berms and sediment basins would also be used. Biodegradable erosion control blankets would be used as needed on long exposed slopes, drainage channels, and other highly erodible areas. Revetments would be placed to protect fill slopes from water. Permanent seeding for revegetation would be done as soon as possible following excavation and grading.

Before suspending grading operations each day, earthwork would be shaped to minimize erosion from storm runoff. Cut-and-fill slopes would be finished as excavation and embankment construction progressed, with permanent seeding applied as soon as practicable following the finishing of each slope. The installation and maintenance of erosion control devices would be approved and monitored by the Federal Highway Administration and the National Park Service during construction. In highly erodible soils, roadway drainage would be discharged at the base of all slopes to reduce erosion on the slopes themselves. Geotextile fabric and riprap might also be used in drainage channels and at drainage discharge points to further control erosion.

Construction activities and staging would use previously disturbed areas wherever possible. However, where previously undisturbed soils and vegetation were susceptible to compaction and trampling by equipment and workers, topsoil would be stockpiled to help preserve micro-organisms and seeds of native plants. The topsoil would be respread in as near the original location as possible and supplemented with scarification, mulching, seeding, and/or planting with native species and grasses.

Excess excavated material would be used as fill if needed or disposed of at approved locations outside parkway boundaries. All excess fill material needed would be taken from sources outside the parkway. No borrow sources exist within the parkway.

Stream Corridors and Wetlands

Construction practices at stream crossings and wetlands would be designed to have minimum impact on these sensitive areas. Wetlands would be flagged before construction, and construction activities, including travel by heavy equipment, would avoid these areas to the extent possible. Disturbances to streambanks, stream channels, or overstory vegetation would also be avoided or minimized.

Measures to mitigate increased drainage from the parkway motor road would be designed to mirror current natural systems as much as possible. Special care would be taken not to permanently alter local hydrology. Flowing and intermittent streams crossing the proposed parkway would be redirected into culverts. The temporary alteration of drainage patterns might be necessary at some sites, but the original drainage system would be restored immediately following construction.

All possible efforts would be made to span or avoid sensitive areas, with minor alterations in the proposed alignment made where necessary to protect resources. Fording streams or drainages with construction equipment would be forbidden. Toxic materials, hazardous materials, or spills would be handled according to EPA regulations and procedures. Cleaning of machinery would occur in the equipment staging area or in a previously approved upland area away from streams. If necessary, diversion ditches should be constructed around these areas to divert water from the area. Similarly, fueling of all machinery would be conducted only in equipment staging areas away from creek or drainage areas. Equipment would be checked frequently to identify and repair any leaks.

The mitigation measures described above would reasonably protect streams, wetlands, and associated aquatic life from the potential effects of soil erosion and sedimentation during both construction and operation of the parkway.

Vegetation and Wildlife Habitat

Parkway construction would require clearing, removing vegetation, and grading. Clearing would be minimized whenever possible to reduce effects on vegetation and wildlife habitat, and also to prevent unnecessary or excessive clearance of overhead tree canopy in densely wooded areas. Plant communities would be reestablished in cleared areas by promptly replanting them with appropriate turf grass species. Tree removal would be limited only to that necessary for parkway construction. Staging areas would be situated in previously disturbed areas or offsite.

The National Park Service would examine the feasibility of revegetating designated project area lands to improve conditions for wildlife and to compensate for project-related impacts on wildlife habitat. Under this scenario, NPS staff would inventory and evaluate open fields along the proposed parkway. Those with minimal or limited potential for retention as part of the agrarian scene by lessee farmers would be considered for revegetation to help mitigate wildlife habitat disturbed by construction.

Roadside areas would be revegetated using turf grass. Straw mulch would be used; rye grass straw or hay would not be permitted. Appropriate fertilizer and soil supplements would be applied as needed. All chemical applications would follow environmental regulations and current NPS policies.

Socioeconomic Environment — Visual Quality

To the extent possible, vegetation and natural landforms would be preserved to protect the visual character of the local setting and to limit the impact of the parkway motor road and Old Agency Road Relocated at sensitive viewpoints.

ALTERNATIVE CONCEPTS CONSIDERED BUT NOT ANALYZED IN DETAIL

During the initial planning for section 3P13, 16 conceptual alternatives were considered. These conceptual alternatives were developed in response to public scoping comments received in August 1998 concerning traffic and access, community character, and cultural resource issues. The conceptual alternatives were presented to the public for comment at a public workshop in November 1998. Four of the concepts (A, B, G, and L) are discussed as alternatives 1, 2, 3, and 4, respectively, in this document.

All of the conceptual alternatives were located on right-of-way owned by the National Park Service. The conceptual alternatives are summarized in table 1, along with the reasons for their being eliminated from further consideration.

TABLE 1: ALTERNATIVE CONCEPTS CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

Concepts	Parkway Crossing at Old Agency Road (OAR)	Disposition of Old Agency Road	Treatment of Parkway through Segment (bridge/no bridge)	Old Agency Road Section Relocated	Reasons Concept Eliminated
Concept C	Provide an at-grade crossing with a traffic circle intersection.	Keep open in current condition.	No bridge.	Do not relocate Old Agency Road.	Not consistent with purpose of parkway as a limited access scenic drive. Not consistent with previous NPS plans (1978 *FEIS*). No provision for safe traffic conditions on the parkway (traffic circle / four-way intersection with two-way traffic on Old Agency Road). Increased congestion on parkway motor road because a commuter route would be created on the parkway between Old Agency Road and I-55. Adverse environmental effects on the historic visual character of Old Natchez Trace / Natchez Trace Parkway due to traffic circle or intersection.
Concept D	Provide an at-grade crossing with a traffic circle intersection.	Keep open, but reconstruct to city street standards.	No bridge.	Do not relocate Old Agency Road.	Same as C.
Concept E	Provide an at-grade crossing with a four-way intersection.	Keep open in current condition.	No bridge.	Do not relocate Old Agency Road.	Same as C.
Concept F	Provide an at-grade crossing with a four-way intersection.	Keep open, but reconstruct to city street standards.	No bridge.	Do not relocate Old Agency Road.	Same as C.
Concept H	Provide a slightly elevated crossing over a low pedestrian underpass.	Close between Whippoorwill Lane and Highland Colony Parkway.	Bridge over Richardson Road extended.	Construct Old Agency Road Relocated between Whippoorwill Lane and Highland Colony Parkway.	Not consistent with previous plans (*Comprehensive Trail Plan*). Concept similar to alternative 3 in this document.
Concept I	Provide a slightly elevated crossing over a low pedestrian underpass.	Close between Whippoorwill Lane and Richardson Road.	No bridge.	Construct Old Agency Road Relocated between Whippoorwill Lane and Highland Colony Parkway.	Concept similar to alternative 2 in this document.

Concepts	Parkway Crossing at Old Agency Road (OAR)	Disposition of Old Agency Road	Treatment of Parkway through Segment (bridge/no bridge)	Old Agency Road Section Relocated	Reasons Concept Eliminated
Concept J	Provide a grade-separated crossing.	Keep open in current condition.	Bridge over Old Agency Road.	Do not relocate Old Agency Road.	Concept similar to alternative 4 in this document.
Concept K	Provide a grade-separated crossing.	Keep open, but reconstruct to city street standards.	Bridge over an improved Old Agency Road.	Do not relocate Old Agency Road.	Concept similar to alternative 4 in this document.
Concept M	Provide a grade-separated crossing.	Keep open in current condition with one-way (westbound) traffic.	Bridge over Old Agency Road.	Construct Old Agency Road Relocated between Whippoorwill Lane and Highland Colony Parkway.	Concept similar to alternative 4 in this document.
Concept N	Provide a grade-separated crossing at Old Agency Road and Dinsmor access.	Keep open in current condition.	Bridge over Old Agency Road and Dinsmor access (single bridge)	Do not relocate Old Agency Road.	Severe visual intrusion on surrounding neighborhoods due to extended length/height of bridge Severe construction, engineering, and maintenance costs.
Concept O	Provide a grade-separated crossing.	Keep open in current condition.	Tunnel parkway under Old Agency Road.	Do not relocate Old Agency Road.	Severe construction engineering and maintenance costs.
Concept P	Provide an at-grade crossing.	Close between Whippoorwill Lane and Richardson Road.	Tunnel Old Agency Road under parkway.	Do not relocate Old Agency Road.	Same as O.

Note: Original concepts A, B, G, and L are considered in this document as alternatives 1, 2, 3, and 4, respectively.

SUMMARY OF ALTERNATIVES AND ENVIRONMENTAL CONSEQUENCES

The alternatives are summarized in table 2, and the environmental consequences are summarized in table 3.

TABLE 2: SUMMARY OF THE ALTERNATIVES

	Alternative 1 — No Action (1978 Design) / Parkway Bridge over Old Agency Road Relocated	Alternative 2 — Old Agency Road Relocated	Alternative 3 — Old Agency Road Relocated / Parkway Bridge over Richardson Road Extension	Alternative 4 — Old Agency Road Relocated / Parkway Bridge over Old Agency Road	Alternative 5 — Proposed Action (Modified 1978 Design) Old Agency Road Relocated / Bridge over Parkway
Parkway	Construct 1.8 km (1.1 mi.) parkway motor road.	Same as alternative 1.	Same as alternative 1.	Same as alternative 1.	Same as alternative 1.
Parkway Crossing at Old Agency Road	Cross Old Agency Road approximately at-grade and bridge over Old Agency Road Relocated.	Cross Old Agency Road approximately at-grade. No bridge required.	Cross Old Agency Road approximately at-grade and bridge over Richardson Road Extension.	Bridge over Old Agency Road.	Cross Old Agency Road approximately at-grade and pass under Old Agency Road Relocated in a 3.9 to 4.6 m (12–14 ft.) cut through rise in topography.
Old Agency Road	Close from near Whippoorwill Lane to Richardson Road. Restore to Old Trace appearances.	Same as alternative 1.	Close from near Whippoorwill Lane to Highland Colony Parkway. Restore to Old Trace appearances.	Keep open in current condition.	Same as alternative 1.
Future East/West Traffic	Construct 1.4 km (0.9 mi.) Old Agency Road Relocated between Whippoorwill Lane and Brame Road; connect to Old Agency Road near Choctaw Agency site.	Construct 1.5 km (0.9 mi.) Old Agency Road Relocated between Whippoorwill Lane and Highland Colony Parkway.	Same as alternative 2. Provide Richardson Road Extension under parkway to Old Agency Road Relocated.	Same as alternative 2.	Construct 1.1 km (0.7 mi.) Old Agency Road Relocated between Whippoorwill Lane and east of Richardson Road; Connect to Old Agency Road east of Richardson Road.
Local Roads within NPS Right-of-Way	Extend Brame Road and realign to connect with Old Agency Road Relocated; provide access to Dinsmor subdivision from Old Agency Road Relocated; provide access to Greenwood Plantation from Brame Road extended. Remove approximately 1.1 km (0.7 mi.) of existing roadways and restore / revegetate.	Provide access to Brame Road, Dinsmor subdivision, and Greenwood Plantation from Old Agency Road Relocated. Remove approximately 1.0 km (0.6 mi.) of existing roadways and revegetate.	Provide access to Brame Road, Dinsmor subdivision, and Greenwood Plantation from Old Agency Road Relocated. Extend Richardson Road under the parkway to connect with Old Agency Road Relocated. Remove approximately 1.75 km (1.1 mi.) of existing roadways and restore / revegetate.	Provide access to Brame Road, Dinsmor subdivision, and Greenwood Plantation from Old Agency Road Relocated. Remove approximately 0.3 km (0.2 mi.) of existing roadways and revegetate.	Extend Brame Road and realign to connect with Old Agency Road Relocated; provide access to Dinsmor subdivision from Old Agency Road Relocated; provide access to Greenwood Plantation from Brame Road extended. Remove approximately 1.1 km (0.7 mi.) of existing roadways and restore / revegetate.
Estimated Cost (1999 dollars)	$7.0 million	$6.0 million	$7.0 million	$ 7.5 million	$ 7.0 million

TABLE 3: SUMMARY OF ENVIRONMENTAL IMPACTS

Impact Topic	Alternative 1 — No Action (1976 Design: Parkway Bridge over Old Agency Road Relocated)	Alternative 2 — Old Agency Road Relocated	Alternative 3 — Old Agency Road Relocated / Parkway Bridge over Richardson Road Extension	Alternative 4 — Old Agency Road Relocated / Parkway Bridge over Old Agency Road	Alternative 5 — Proposed Action (Modified 1976 Design: Old Agency Road Relocated / Bridge over Parkway)
Transportation / Traffic					
Access	Impacts would be minor. Travel would remain generally the same. Although there would be slight geometric changes in road alignments, access would still be provided in all travel directions for each local road.	Impacts would be major. Access for westbound through-traffic and some local traffic would be relocated, causing adverse impacts on many travel routes. While some travel patterns would change, each local road would still provide access in all travel directions.	Impacts would be major and adverse. Both travel patterns and access locations would change, a short-term inconvenience for drivers as they adjusted their travel patterns. Over the long-term, travel time would be increased due to Old Agency Road Relocated and closing Old Agency Road within the parkway.	Impacts would be moderate. There would be short-term, adverse impacts as drivers became familiar with the new route. Over the long-term, access would be provided to all local roads. Changes in travel time, due to rerouting, would be minor over the long term.	Impacts to access would be minor. While some travel patterns could change, access would be still provided in all travel directions for each local road.
Volume	Volume impacts would be minor since traffic would be shifted to new road alignments.	Volume impacts would be moderate, as existing traffic would be split between Old Agency Road and Old Agency Road Relocated. Volumes would remain the same.	Volume impacts would be major as all traffic from Old Agency Road would be shifted to Old Agency Road Relocated.	Volume impacts would be moderate as a portion of traffic on Old Agency Road would be shifted to Old Agency Road Relocated.	Same as alternative 1.
Safety	Safety would be moderately improved by reconfiguring accesses and providing new access points with improved sight distances. Portions of Old Agency Road with safety concerns would remain.	Safety impacts would be moderate. Old Agency Road Relocated would be constructed with improved sight distance, grading, and shoulder width. Safety impacts with open portions of Old Agency Road would remain.	Safety would be improved with the removal and restoration of Old Agency Road within the parkway and the construction of Old Agency Road Relocated, a major positive impact.	Safety improvements would be minor since Old Agency Road would remain open. Shifting less than 2,000 vehicles per day to Old Agency Road Relocated would not be enough to improve safety conditions on Old Agency Road.	Same as alternative 1.
Cultural Resources					
Historic Sites	Alternative 1 would cause a long-term, moderate adverse impact to a 0.7 km (0.4 mi.) portion of the historic Old Natchez Trace (Old Agency Road). Patterns of historic circulation and use, along with character-defining attributes of the road corridor, would be substantially altered or lost. Restoring the road to Old Trace appearances would help mitigate the impact. Removing most of the Greenwood Plantation	Same as alternative 1.	Same as alternative 1 except a 1.4 km (0.9 mi.) portion of Old Agency Road would be closed and restored to Old Trace appearances.	Although the segment of Old Natchez Trace/Old Agency Road would remain within the NPS right-of-way and would be protected from disturbances associated with an at-grade crossing, a parkway overpass would nevertheless intrude on the historical setting of the road corridor, resulting in a major adverse effect. Removing a portion of the Greenwood Plantation access drive would have the	Same as alternative 1.

Impact Topic	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	access drive would alter the historic approach, a moderate adverse impact on the property's overall historical integrity.			same impacts as alternative 1.	
Archeological Resources	The Choctaw Agency site and the adjacent archeological site would be avoided by construction disturbance and would not be affected.	The Choctaw Agency site would be avoided by construction disturbance. The park would undertake appropriate site protection measures to avoid or mitigate potential adverse effects related to public visitation before opening the site to interpretation.	Same as alternative 2.	Same as alternative 2.	Same as alternative 2.
Natural Resources					
Air Quality	There would be a negligible impact on air quality in both the short and long term, and no violation of national ambient air quality standards for carbon monoxide.	Same as alternative 1.	Same as alternative 1.	Same as alternative 1.	Same as alternative 1.
Soils	Long-term, negligible impacts would occur to project area soils due to excavation. Mitigation efforts would be undertaken to prevent soil erosion and to address the expansive characteristics of local soils.	Same as alternative 1.	Same as alternative 1.	Same as alternative 1.	Same as alternative 1.
Wetlands	Approximately 0.6 ha (1.5 ac.) of wetlands would be permanently filled for new roads. Negligible adverse impacts would occur to wetland area 1. Long-term major adverse impacts would occur in areas 4, 6, and 8; each wetland would be reduced 35% to 40% and the remaining sections fragmented. No adverse impacts would occur to areas 2, 3, 5, 7, 9, and 10. Road removal could help improve wetland systems in areas 5 and 7.	Approximately 0.7 ha (1.7 ac.) of wetlands would be permanently filled. No adverse impacts would occur to wetland areas 2, 3, 5, 7, and 10. Negligible adverse impacts would occur to wetland area 1. Moderate long-term adverse impacts would occur to areas 8 and 9 because of reduction in wetland size. Major long-term adverse impacts would occur in areas 4 and 6, as each wetland would be reduced in size 35% to 40% and the remain-	Approximately 0.7 ha (1.7 ac.) of wetlands would be permanently filled. Impacts would be the same as alternative 2 except negligible adverse impacts would occur to wetland areas 1 and 7 because road fill would slightly reduce the size of both areas. Total cumulative effect of developing the remaining parkway section to the west would be 1.3 ha (3.2 ac.), the same as alternative 2.	Approximately 0.7 ha (1.7 ac.) of wetlands would be permanently filled. Impacts would be the same as alternative 2. Total cumulative effect of developing the remaining parkway section to the west would be 1.3 ha (3.2 ac), the same as alternative 2.	Similar to alternative 1 except approximately 0.6 ha (1.4 ac.) of wetlands would be permanently filled. Long-term, major adverse impacts would occur in areas 4, 6, and 8; each wetland area would be reduced in size by at least 25%. Total cumulative effect of developing the remaining parkway section to the west would be 1.2 ha. (3.0 ac.), the same as alternative 1.

Impact Topic	Alternative 1 — No Action (1978 Design) — Parkway Bridge over Old Agency Road Relocated	Alternative 2 — Old Agency Road Relocated	Alternative 3 — Old Agency Road Relocated, Parkway Bridge over Richardson Road Extension	Alternative 4 — Old Agency Road Relocated, Parkway Bridge over Old Agency Road	Alternative 5 — Proposed Action (Modified 1978 Design) — Old Agency Road Relocated — Bridge over Parkway
	Developing remaining parkway sections to the west would result in an additional loss of 0.6 ha (1.5 ac.) and a cumulative wetland impact of 1.2 ha (3.0 ac.).	ing sections would be fragmented. Road removal could benefit areas 5 and 7 (the same as alt. 1). Total cumulative effect of developing the remaining parkway section to the west would be 1.3 ha (3.2 acres).			
Water Quality	Short-term, negligible adverse impacts would occur from construction activity releasing soil and debris into unnamed streams. Anticipated traffic volumes on Natchez Trace Parkway and Old Agency Road Relocated would be less than 30,000 vehicles; water quality impacts caused by vehicle-contaminated runoff would be long term but negligible. Stormwater discharged into local streams could result in long-term, minor impacts from increased peak flows. The restoration of removed and relocated roads could benefit local hydrologic and drainage patterns.	Same as alternative 1.	Same as alternative 1.	Same as alternative 1.	Same as alternative 1.
Vegetation	Developing new roads would result in the loss of about 10.5 ha (25.8 ac.) of vegetation. Removing roads, including a portion of Old Agency Road, would allow about 2.2 ha (5.2 ac.) to be revegetated. The long-term impact would be moderate to major, with a net loss of 8.3 ha (20.6 ac.). The construction of a multi-use trail would cause a permanent cumulative loss of vegetation locally. Each vegetation type affected is common in	Similar to alternative 1 except vegetation loss would total about 11.5 ha (28.4 ac.). Removing some roads, including a portion of Old Agency Road, would allow about 2 ha (4.9 ac.) to be revegetated, for a net loss of 9.5 ha (23.6 ac.). Compared to alternative 1, additional areas of pine/ oak forest and agricultural fields would be affected, resulting in a higher net loss.	Similar to alternative 1 except vegetation loss would total about 11.7 ha (28.8 ac.). Removing some roads, including all of Old Agency Road within the project area, would allow about 3.6 ha (8.7 ac.) to be revegetated, for a net loss of 8.1 ha (20.1 ac). Compared to alternative 1, less pine/oak forest and more agricultural fields would be affected, resulting in a similar net loss.	Similar to alternative 1 except vegetation loss would total about 11.1 ha (27.5 ac.). Removing some roads would allow about 0.4 ha (0.9 ac.) to be revegetated, for a net loss of 10.7 ha (26.6 ac.). Compared to alternative 1, additional late successional and agricultural fields would be affected because Old Agency Road would not be removed and restored.	Similar to alternative 1 except vegetation losses would total about 11.3 ha (27.8 ac.). Removing roads, including a portion of Old Agency Road, would allow about 2.2 ha (5.2 ac.) to be revegetated, for a net loss of 9.1 ha (22.5 ac.). Compared to alternative 1, slightly more pine/ oak forest and agricultural fields would be affected.

Impact Topic	Alternative 1: [illegible] Parkway Bridge over Old Agency Road Relocated	Alternative 2: [illegible] Old Agency Road Relocated	Alternative 3: [illegible] Agency Road Relocated, Parkway Bridge over Richardson Road Extension	Alternative 4: [illegible] Agency Road Relocated, Parkway Bridge over Old Agency Road	Alternative 5: [illegible] Agency Road Relocated, Bridge over Parkway
	the Jackson area; the impact would be negligible in the local/regional context.				
Net Vegetation Changes					
Mixed Hardwood	0.8 ha (2.0 ac.)	0.8 ha (2.0 ac.)	0.8 ha (2.0 ac.)	0.8 ha (2.0 ac.)	0.8 ha (2.0 ac.)
Pine/Oak	3.2 ha (7.9 ac.)	2.8 ha (6.9 ac.)	2.1 ha (5.2 ac.)	2.9 ha (7.2 ac.)	3.6 ha (8.9 ac.)
Late Successional Fields	2.6 ha (6.4 ac.)	2.6 ha (6.4 ac.)	2.5 ha (6.4 ac.)	3.6 ha (9.1 ac.)	2.6 ha (6.4 ac.)
Agricultural Fields	1.7 ha (4.3 ac.)	3.3 ha (8.3 ac.)	2.7 ha (6.4 ac.)	3.4 ha (8.3 ac.)	2.1 ha (5.2 ac.)
Net Total	**8.3 ha (20.6 ac.)**	**9.5 ha (23.6 ac.)**	**8.1 ha (20.1 ac.)**	**10.7 ha (26.6 ac.)**	**9.1 ha (22.5 ac.)**
Wildlife	Wildlife impacts would be minor. Regional wildlife populations would not be expected to decrease because of the long-term loss of 8.3 ha (20.6 ac.) of habitat. Ongoing development of adjacent parkway segments and a multi-use trail could cause minor cumulative effects to some wildlife species because of habitat loss and fragmentation	Similar to alternative 1 except habitat loss would total 9.5 ha (23.6 ac.).	Similar to alternative 1 except habitat loss would total 8.1 ha (20.1 ac.).	Similar to alternative 1 except habitat loss would total 10.7 ha (26.6 ac.).	Similar to alternative 1 except habitat loss would total 9.1 ha (22.5 ac.).
Threatened or Endangered Species, or Species of Special Concern	No federally listed species occur within the project area. The potential loss of habitat would have negligible to minor impacts on Mississippi species of special concern. Mitigation techniques would be used to maintain habitat where important.	Same as alternative 1.	Same as alternative 1.	Same as alternative 1.	Same as alternative 1.
Socioeconomic Impacts					
Consistency with Other Plans	This alternative would have beneficial impacts because of consistency with the local *Comprehensive Plan* and transportation plans. However, lack of access to the Choctaw Agency site would be inconsistent with local cultural and historic goals and policies.	Similar to alternative 1 except providing access to the Choctaw Agency site would complement local cultural and historic goals.	Same as alternative 2.	Same as alternative 2 except keeping Old Agency Road open would not be consistent with local transportation plans.	Same as alternative 2.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Visual Resources	Actions would lead to long-term, major adverse visual impacts because of clearing mature trees in densely wooded areas and changing the visual experiences of users of local roads. New views of the parkway and Old Agency Road Relocated (including the bridge and earth fill embankments) from adjacent residential subdivisions, St. Andrew's School, and Greenwood Plantation would be short-term, moderate impacts pending the revegetation of disturbed areas. Completing this parkway segment and using consistent design materials and details would improve the continuity of the visual experience, providing a long-term, major benefit.	Similar to alternative 1 except there would be no parkway bridge to intrude on views.	Similar to alternative 1 except the Richardson Road extension, in addition to a parkway bridge, would be short-term, moderate impacts pending the revegetation of disturbed areas.	Similar to alternative 1 except a higher and extended parkway bridge over Old Agency Road would create long-term, major impacts.	Similar to alternative 1 except for a different alignment of Old Agency Road Relocated and a low-profile crossing of Old Agency Road Relocated over the parkway, which would slightly interrupt the visual continuity of the parkway experience.
Recreational Users and Facilities	Completing this parkway motor road section would improve the continuity of the recreational driving experience, a long-term, major beneficial impact. Not providing access to or parking at the Choctaw Agency site would make it difficult to offer interpretive or educational programs on site, a long-term, minor adverse impact. A multi-use trail would provide additional recreational opportunities for local residents and parkway users, a long-term, moderate beneficial impact.	Similar to alternative 1 except providing access directly from the parkway motor road to the Choctaw Agency site and a parking area would make it easier to offer interpretive and educational programs, enhancing the experience of parkway users and local residents, a long-term, major beneficial impact.	Same as alternative 2.	Same as alternative 2 except users of a multi-use recreational trail would have to cross Old Agency Road, which would continue to carry traffic; this would change the impact from a moderate to a minor beneficial impact over the long term.	Same as alternative 2.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Local Residents	Impacts on local residents from the clearance of vegetation, the intrusion of urban standard roadways, and the proximity of roadways to residential subdivisions would be short term and moderate. The amount of out-of-direction travel for local access would be a short-term, minor impact until local travelers became accustomed to the differences. There would be no impact on local accessibility to regional destinations via I-55 with direct connection by way of the Old Agency Road interchange. A multi-use trail would potentially improve the quality of life for local residents.	Similar to alternative 1 except for long-term, moderate adverse impacts on local access to regional attractions that would occur without direct access to I-55 from Old Agency Road Relocated. Increased out-of-direction travel for local access across the parkway corridor would be a short-term, minor impact.	Similar to alternative 1 except there would be additional loss of vegetation due to the extension of Richardson Road south to Old Agency Road Relocated. The parkway bridge over Richardson Road would have a similar impact as the alternative 1 bridge. Closing and restoring Old Agency Road to Old Trace appearances from near Whippoorwill Lane to Highland Colony Parkway would increase privacy for residents along the northern boundary of the parkway corridor, a long-term, major benefit. As described for alternative 2, no direct access to I-55 would have a long-term, moderate impact on regional accessibility. With the Richardson Road extension, no out-of-direction travel would be required for access to local attractions across the parkway corridor.	Similar to alternative 1, except the long parkway bridge over Old Agency Road would have long-term, major impacts on the rural setting, including seclusion and privacy. Many existing access routes to local destinations across the parkway corridor would be retained, requiring minimal out-of-direction travel. There would be a long-term, moderate adverse impact on local access to regional attractions without direct access to I-55 from Old Agency Road Relocated.	Similar to alternative 1.
Noise	Noise would increase at all sites and residential areas near new roadways. Traffic noise would increase 10 to 13 dB(A), with the greatest increase in the Dinsmor subdivision. The highest noise level of 61 dB(A) would occur at the Choctaw Agency site. Increases would not exceed state guidelines and would be less than FHWA noise abatement criteria for residential and park areas (67 dB(A)).	Similar to alternative 1 except the maximum increase in noise levels would be 13 dB(A) near the Dinsmor subdivision and the highest noise level of 59 dB(A) would occur at the Choctaw Agency site.	Similar to alternative 1 except the greatest increase in noise levels would be 12 dB(A) at East Dinsmor and Brame Road and 58 dB(A) near the Choctaw Agency site.	The same as alternative 1, even though Old Agency Road would remain open from near Whippoorwill Lane to Highland Colony Parkway.	The same as alternative 1. The lower road grade along the parkway motor road through cut sections would have minimal effects on traffic-related noise.

AFFECTED ENVIRONMENT

TRANSPORTATION / TRAFFIC ANALYSIS

Natchez Trace Parkway was designed to provide a scenic and historical route for long-distance, interstate recreational travel. Once the segment west of Highland Colony Parkway is constructed, drivers may continue along the parkway motor road uninterrupted. However, the construction of the parkway motor road could affect the following local roads:

Old Agency Road
Brame Road
Greenwood Plantation access drive
Richardson Road
Dinsmor crossing access
St. Andrew's School (private access)

The study area for transportation includes the proposed parkway motor road alignment between Whippoorwill Lane and Highland Colony Parkway, including the local roads within the right-of-way segment. Access, traffic volumes, and safety issues for the roads within or adjacent to the study area are discussed in the following sections.

Access

Currently, the parkway motor road terminates at I-20 on the west and I-55 on the east. Travelers on the parkway motor road must detour around this unconstructed segment on local roads, increasing travel time and out-of-direction travel. Local access to the parkway motor road is provided at the interchange with I-55. No direct local access is provided in the study area, in accordance with the legislation establishing the parkway. Currently there is no formal access from the parkway motor road to the Choctaw Agency site.

Old Agency Road parallels the proposed parkway motor road and locally serves as a collector street carrying traffic from area residential developments east to I-55. The intersection with Highland Colony Parkway is a full-movement (turning movements in every direction are allowed), stop-controlled access. In the vicinity of the proposed parkway motor road, Old Agency Road provides direct access from Highland Colony Parkway or I-55 to residential areas including the Canterbury, Dinsmor, and Windrush subdivisions. Access is also provided to Greenwood Plantation, and a secondary access is provided to St. Andrew's School and the school athletic fields. The school's primary access has been relocated to Highland Colony Parkway.

Brame Road is a north-south road providing local access between Old Agency Road and Highland Colony Parkway. Brame Road, which bisects the parkway right-of-way south of Old Agency Road, is a paved, two-lane road that provides local access to residences south of the parkway right-of-way. Heading south from Old Agency Road, Greenwood Plantation Drive is a paved private driveway serving the plantation residence. The access to Old Agency Road from Greenwood Plantation Drive also provides full movement.

Richardson Road is a paved, two-lane road, providing north-south access from Old Agency Road to the Canterbury and Windrush subdivisions, as well as other scattered residences and subdivisions north of Canterbury. The access to Old Agency Road from Richardson Road is full movement.

The Dinsmor subdivision is currently accessed from Old Agency Road on the north and Highland Colony Parkway on the south. Dinsmor Crossing, the access from Old Agency Road, is a paved, two-lane road. The access to Old Agency Road from the Dinsmor crossing is full movement.

A secondary access for the St. Andrew's School is located on Old Agency Road just west of the intersection with Highland Colony Parkway. While the school has primary access from Highland Colony Parkway, direct access to the school's athletic fields is now from Old Agency Road, just east of Richardson Road.

Traffic Volume

Present traffic volume on the Natchez Trace parkway motor road east of I-55 is approximately 7,200 vehicles per day (Traffic Engineering 1991). Opening day traffic on the proposed parkway motor road is expected to be similar in volume.

Where the parkway motor road passes through urban areas, sections of the road may carry some commuter traffic. Near Ridgeland, commuters use the parkway motor road between I-55 and Old Canton Road for east-west travel. Although the parkway motor road is not intended to serve commuter traffic, it currently provides the most direct and convenient east-west route in the vicinity. There is some concern that when the parkway motor road is extended, short-term commuter traffic will continue to travel on the parkway motor road past I-55. With no other local road improvements, forecasts for 2010 show that east-west traffic on the parkway motor road corridor would double over existing volumes to an estimated 18,000 vehicles per day, which approaches the capacity of a two-lane roadway (Traffic Engineering 1996). Much of this traffic would be attributed to local commuter traffic rather than growth in parkway visitation. In 2020 the demand for east-west travel is expected to increase to over 50,000 vehicles per day (Waggoner Engineering 1996). Because of the parkway's legislated mandate to be constructed as a two-lane, rural motor road, it is not anticipated that the roadway width would be increased to accommodate increasing traffic volumes.

The city of Ridgeland's long-range plan includes a number of long-term improvements to extend other roads, including Jackson Street and Rice Road, to provide alternate routes for local traffic. These alternate east-west travel corridors would be essential for reducing commuter traffic on the parkway motor road, which is not designed or intended to accommodate local traffic. Without providing alternative east-west routes for local traffic, the ability of the parkway motor road over time to serve its national function as a recreational route for interstate travelers would be severely impaired.

Traffic on Old Agency Road is primarily local traffic with some through traffic. As most development is currently located near Highland Colony Parkway, volumes on Old Agency Road decrease as the road heads west from I-55. Between Highland Colony Parkway and Richardson Road volumes were measured at 10,000 vehicles per day, according to traffic counts conducted by the Federal Highway Administration in 1999. Traffic volumes decrease to 3,100 vehicles per day between Richardson Road and the Dinsmor crossing, and to 1,100 vehicles per day west of Whippoorwill Lane (Waggoner Engineering 1996).

Traffic volumes on Brame Road are estimated to be less than 500 vehicles per day based on the limited number of residences on the road and the alternate connection to Highland Colony Parkway.

The Greenwood Plantation drive serves only the plantation residence, and the daily traffic is estimated at less than 50 vehicles per day. North of Old Agency Road, volumes on Richardson Road were measured at 1,900 vehicles per day. Traffic counts from 1991 show approximately 1,500 vehicles per day on Dinsmor Crossing (Waggoner Engineering 1996).

Safety

Old Agency Road is a paved, narrow road (6.6 meters / 20 feet wide) with no shoulders. The posted speed limit is 35 mph within the study area. The Federal Highway Administration prepared a safety study on Old Agency Road in March 1999, with revisions in September 1999. The report finds the narrow road width, bordering ditches, and limited sight distance may contribute to the relatively high accident rate (122 accidents with injuries per 100 million vehicle miles of travel [Mvmt] from 1993 to 1998) as compared to the national average (109 accidents with injuries per 100 Mvmt, 1993–98) and the Mississippi rural road average (82 accidents with injuries per 100 Mvmt, 1993–98). In addition, reduced sight distance can increase driver anxiety when turning from a cross-street onto Old Agency Road. The report presented the following causes of the safety deficiencies:

narrow travel lanes for the volume of traffic

no shoulders

insufficient horizontal clearance; deep ditches and trees are located within the required clear zone

poor roadway profile (dips, bumps, etc.) due to underlying soils (YAZOO clay)

high speeds (the narrow roadway profile does not provide pullout for police to monitor speed violations)

insufficient sight distances at Brame Road, Greenwood Plantation Drive, Richardson Road (east approach), Dinsmor Road (west approach), and the St. Andrew's athletic field access

poor drainage that contributes to flooding during heavy rains

CULTURAL RESOURCES

Historic Preservation Compliance

At various times over the past 20 years, the National Park Service and the Mississippi Department of Archives and History (the state historic preservation office) have consulted regarding the construction of section 3P13. Concerted attempts to reach a formal agreement have been underway since 1988. Under a provision of a 1980 memorandum of agreement between the National Park Service, the state historic preservation officers of Mississippi, Alabama, and Tennessee, and the Advisory Council on Historic Preservation, the National Park Service agreed to consult and provide construction plans to the appropriate state historic preservation officer in instances where parkway construction could affect portions of the Old Natchez Trace eligible for the National Register of Historic Places. The Advisory Council on Historic Preservation would also be provided an opportunity to comment in instances where parkway construction could adversely affect the Old Natchez Trace.

At issue over the years has been the anticipated effects of construction on significant historic resources in the project area, namely Old Agency Road, the Choctaw Agency site, and Greenwood Plantation. As a consequence of the ongoing controversy that has delayed selection of a final design alternative, NPS compliance responsibilities under section 106 of the National Historic Preservation

Act and the 1980 memorandum of agreement remain unresolved with regard to these historic resources.

The period of significance of the Old Natchez Trace/Old Agency Road has been an item of disagreement between the agencies. The issue is of more than academic interest, as it bears directly on appropriate treatment and mitigation alternatives (i.e., restoration of Old Agency Road to approximate its early 19th century "Old Trace" appearance, or perhaps retention of its current character-defining qualities). The National Park Service has argued that the primary significance of the road segment corresponds to the ca. 1790–1820 period, during which the Natchez Trace received its greatest use as an overland route from Natchez to Nashville. The Mississippi state historic preservation officer has advocated a broader period of significance that encompasses Old Agency Road's evolution from the original Natchez Trace, its subsequent use as a late 19th/early 20th century plantation and farm road, and ultimately its current status as a scenic byway in an urban area.

In 1994 the National Park Service announced its decision to proceed with an at-grade crossing of Old Agency Road by the Natchez Trace Parkway and submitted a draft memorandum of agreement to the Mississippi state historic preservation officer addressing mitigation requirements for the adverse effect determination. Because of the disagreement regarding Old Agency Road's period of significance, and the state historic preservation officer's long-standing objection to closing the road, the state notified the National Park Service in a letter dated April 29, 1994, that it would not sign the memorandum of agreement and that it had elected to withdraw from section 106 review of this particular project. The National Park Service notified the Advisory Council on Historic Preservation of the state's decision and requested direct consultation with the council under provisions of 36 CFR 800.1(c)(1)(ii) and 800.5(e)(6). The National Park Service prepared another draft memorandum of agreement and submitted it to the council, together with summary documentation that subsequently included the national register nomination for the Old Natchez Trace segment and the Choctaw Agency site (the properties were listed on the National Register of Historic Places on February 2, 1995).

The Advisory Council on Historic Preservation responded in a letter dated February 17, 1995, that the National Park Service was procedurally correct in initiating direct consultation with the council. However, the council indicated that it was premature for their office to sign the memorandum of agreement because of questions regarding the project's effects on the Greenwood Plantation (which were not addressed in the draft memorandum of agreement), and the possibility that the national register nomination might provide new information, leading to a reappraisal of the significance of the Old Natchez Trace/Old Agency Road and associated project effects. The council recommended that the National Park Service consider bringing other interested parties (e.g., the City of Ridgeland) into the formal section 106 consultation process.

Consultation was suspended until the present effort to undertake a supplemental environmental impact statement. Accordingly, the National Park Service will consult with the council and other interested parties, and upon selection of a preferred alternative, will prepare a revised memorandum of agreement for submittal to the council stipulating proposed mitigation measures.

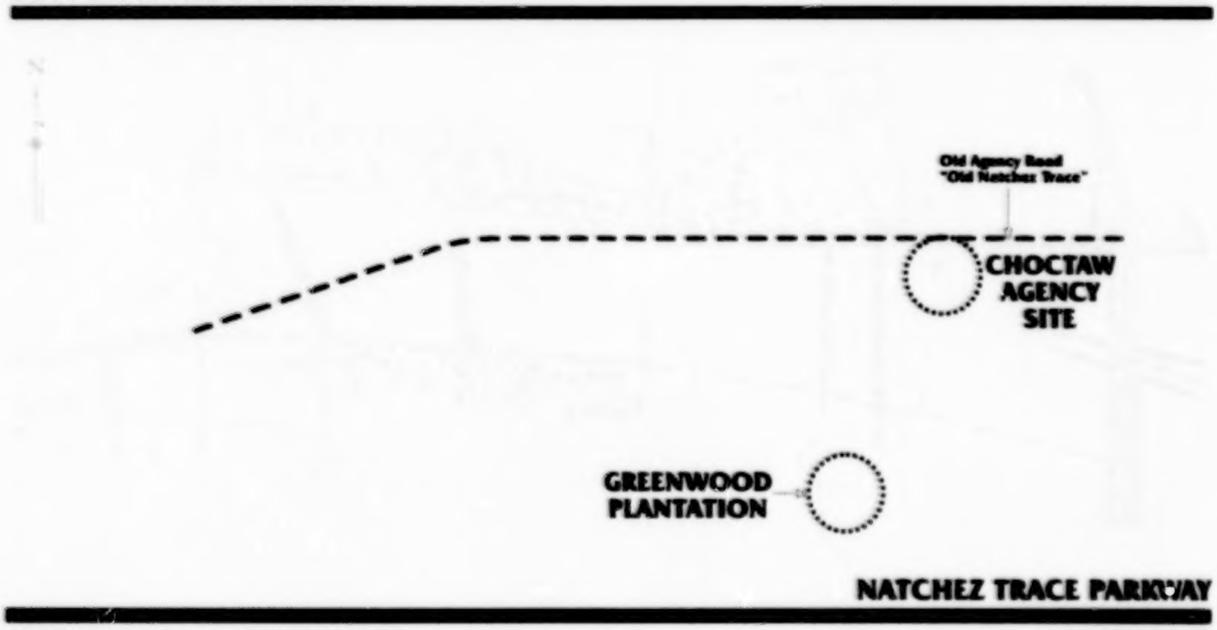
Historical Overview of the Natchez Trace and the Cultural Landscape

Within the project area, Old Agency Road corresponds to a section of the Old Natchez Trace. The Trace was an important late 18th/early 19th century footpath and road linking Natchez, Mississippi, with Nashville, Tennessee. It evolved from prehistoric Indian trade and hunting paths that later connected Natchez, Choctaw, and Chickasaw villages. By the 1780s, Ohio River Valley settlers began floating their crops and products down the Mississippi River to markets in Natchez and New Orleans. Rather than undertake the arduous upriver return, many sold their flatboats and rode or walked the network of primitive trails leading north from Natchez.

A few decades later, the Trace had become a heavily used wilderness road across the Old Southwest. The hardships faced by those traveling along it during this period were lessened to some extent by the accommodations provided at wayside inns or "stands." Between 1801 and 1807, road widening and other improvements were undertaken by the U.S. Army after the Trace was designated as a federal post road. By the 1820s, however, steamship transportation on the Mississippi River emerged as the dominant means of regional commerce. This factor, combined with the proliferation of alternate roads serving new towns and market centers, contributed to a dramatic decline in overland travel along the Trace. The route became essentially a series of local and county roads.

National Register Historic Sites

A 3.3-mile portion of Old Agency Road, the Old Natchez Trace, between I-55 on the east and Livingston Road on the west was listed in the National Register of Historic Places in 1995. The portion of Old Agency Road outside the NPS right-of-way was designated as a Mississippi landmark in 1988. Even though Old Agency Road is now paved and suburban development borders it, it exhibits qualities recalling its rural heritage. It is narrow and without shoulders, and portions are within high earthen embankments. The curving alignment along this section follows the original route through low rolling hills and stream bottomlands. In some places, trees border the road, creating an enclosed overhead canopy; other areas provide more open vistas where the road crosses fields and pastures.



CULTURAL RESOURCES

SOURCE: National Park Service, Denver Service Center

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The Choctaw Agency site is a significant archeological resource associated with this section of Old Natchez Trace, and it was jointly nominated to and listed on the National Register of Historic Places. Archeological remains of the agency building are located northwest of the intersection of the proposed alignment of the parkway motor road and Highland Colony Parkway. From about 1807 to 1821 the agency building served as the residential headquarters of the U.S. Government agent responsible for Choctaw Indian affairs. Private individuals occupied it until the 1850s, although by that time it was in poor condition. It was eventually razed in the 1870s.

Greenwood Plantation is located approximately 150 meters (492 feet) south of the southern boundary of the parkway motor road corridor at the eastern end of the project area. The privately owned, two-story Greek Revival plantation house was constructed about 1854 by William Fenil Battley, a wealthy cotton planter. William Nichols, the architect who designed Greenwood, also designed Mississippi's Old Capitol Building and the Governor's Mansion. Union troops occupied the property during the Civil War and burned the plantation's cotton gin and a warehouse. Despite additions to the house, it retains most of its original design character. The Greenwood Plantation house was determined eligible for the National Register of Historic Places by the Mississippi Department of Archives and History.

Greenwood Plantation

The driveway to the plantation crosses the parkway motor road corridor and connects with Old Agency Road. The driveway runs north-south and serves as the primary means of access to the property. It is recognized as a feature contributing to Greenwood Plantation's historic significance.

Archeological Resources

Archeological testing at the Choctaw Agency site by the National Park Service's Southeast Archeological Center in 1988 uncovered large quantities of early 19th century artifacts indicative of Choctaw and Euro-American interaction.

Another relevant archeological site is within the project area. Cultural material recovered there may be associated with the agency, indicating the possible location of slave cabins as well as the campsites of Old Natchez Trace travelers and visiting Choctaw.

Also within the project area, other archeological sites identified along Old Agency Road represent the likely locations of late 19th/early 20th century tenant houses. These sites have limited archeological and historical significance. Cultivation and construction has compromised their potential for information.

NATURAL RESOURCES

Air Quality

Madison County, Mississippi, is an attainment area for ozone as defined by national ambient air quality standards. The Mississippi state implementation plan is in conformance with the national standards; however, this project is not listed in the latest Mississippi implementation plan.

Carbon monoxide (CO) is the most prevalent vehicle emission; therefore, this study will address CO concentrations produced by vehicular operations on the Natchez Trace Parkway and intersecting roadways.

Geology and Soils

The gently rolling topography of the parkway motor road right-of-way in Ridgeland features up to 8-percent slopes. Soils within the corridor consist of Byram, Loring, and Providence silt loams, as shown in the map of soil types and prime and unique farmlands. Oaklimeter and Riedtown silt loams are found in the alluvium of the broad flood plains within the corridor (Natural Resource Conservation Service 1993).

The silt loams on the gently rolling slopes have low strength for streets and roads because the subsoil and underlying clayey material shrink and swell with seasonal changes in moisture. Steeper slopes, which range from 5% to 8%, present more severe limitations, including increased surface erosion. The silt loams in floodplain areas also have low strength for roads and streets because of seasonal wetness and occasional flooding. Appropriate design and careful construction can mitigate these limitations.

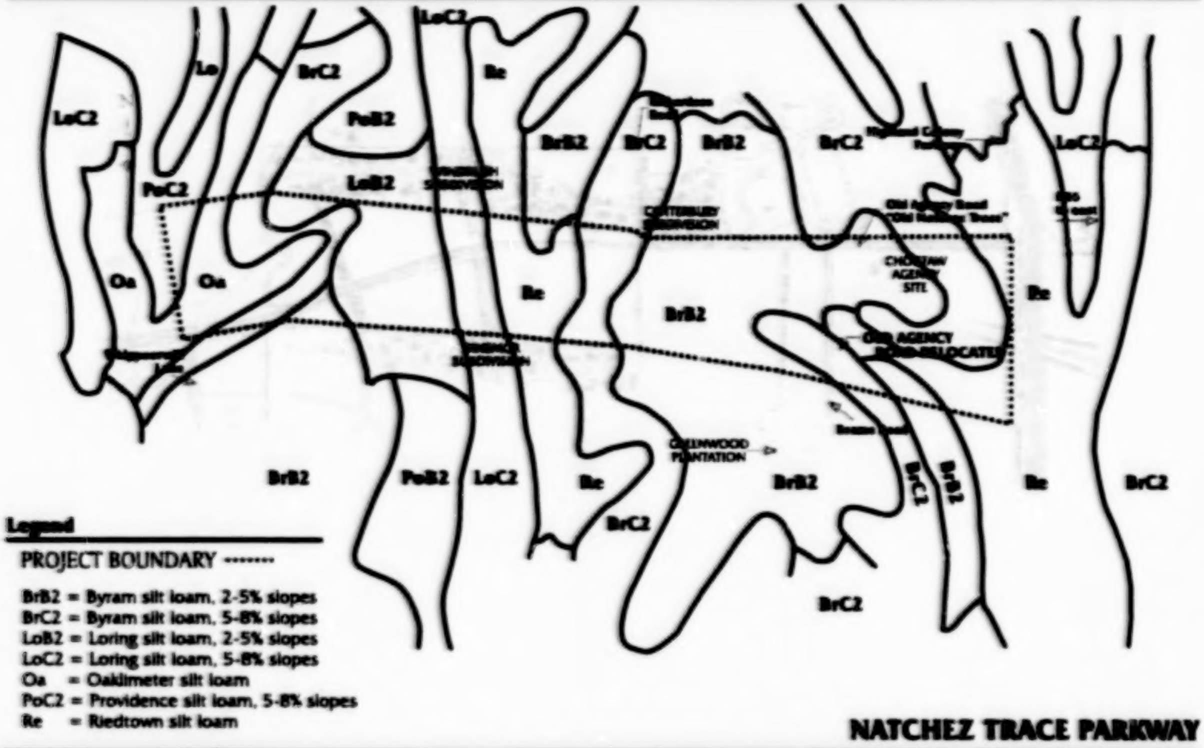
Prime and Unique Farmlands

There are no prime or unique farmlands within the parkway motor road corridor in Ridgeland. The Natchez Trace Parkway continues to lease open fields for hay adjacent to the Dinsmor subdivision, and cattle graze near Highland Colony Parkway.

Water Resources

Water Quality. Small, unnamed tributaries of White Oak Creek and Purple Creek are located throughout the study area. Streams in the study area east of St. Andrew's School are tributaries of Purple Creek; the remaining streams drain to White Oak Creek (NPS 1999). White Oak Creek flows southward into the Pearl River (NPS 1978). The riverine wetland areas (wetland areas 5, 8, and 9) described in the following section contain open water corridors or streams. Many of the palustrine forested wetlands are also located close to streams.

SOIL TYPES / PRIME AND UNIQUE FARMLANDS


LoC2
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BrC2
Oa
Oa
Re
BrB2
CHOCTAW AGENCY SITE
OLD AGENCY ROAD RELOCATED
GREENWOOD PLANTATION
BrB2
PoB2
LoC2
Re
BrB2
BrC2
BrB2
Re
BrC2
BrC2
Legend
PROJECT BOUNDARY
BrB2 = Byram silt loam, 2-5% slopes
BrC2 = Byram silt loam, 5-8% slopes
LoB2 = Loring silt loam, 2-5% slopes
LoC2 = Loring silt loam, 5-8% slopes
Oa = Oaklimeter silt loam
PoC2 = Providence silt loam, 5-8% slopes
Re = Riedtown silt loam
NATCHEZ TRACE PARKWAY

SOURCE: Soil Survey of Madison County, MS

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The streams within the parkway motor road corridor must meet state water quality standards that include minimum conditions applicable to all state waters and specific uses such as fishing, the propagation of fish and aquatic life, and wildlife (Mississippi Department of Environmental Quality 1995). General standards and conditions outlined for streams, such as those found within the project area, include the following:

- Waters shall be free from substances attributable to municipal, industrial, agricultural, or other discharges.
- Waters shall be free from floating debris, oil, scum, and other materials attributable to municipal, agricultural, or other discharges.
- Waters shall be free from substances in concentrations or combinations that are toxic or harmful to humans, animals, or aquatic life.

Specific conditions and levels for parameters such as dissolved oxygen, pH, temperature, bacteria, specific conductance, dissolved solids, taste and odor, phenolic compounds, and toxic substances are outlined within the state standards.

Floodplains. The 100-year floodplains of White Oak Creek and Purple Creek border the western and eastern ends of the project area, respectively. A small portion of the 100-year Purple Creek floodplain extends into the project area along Highland Colony Parkway, but the area is minimal.

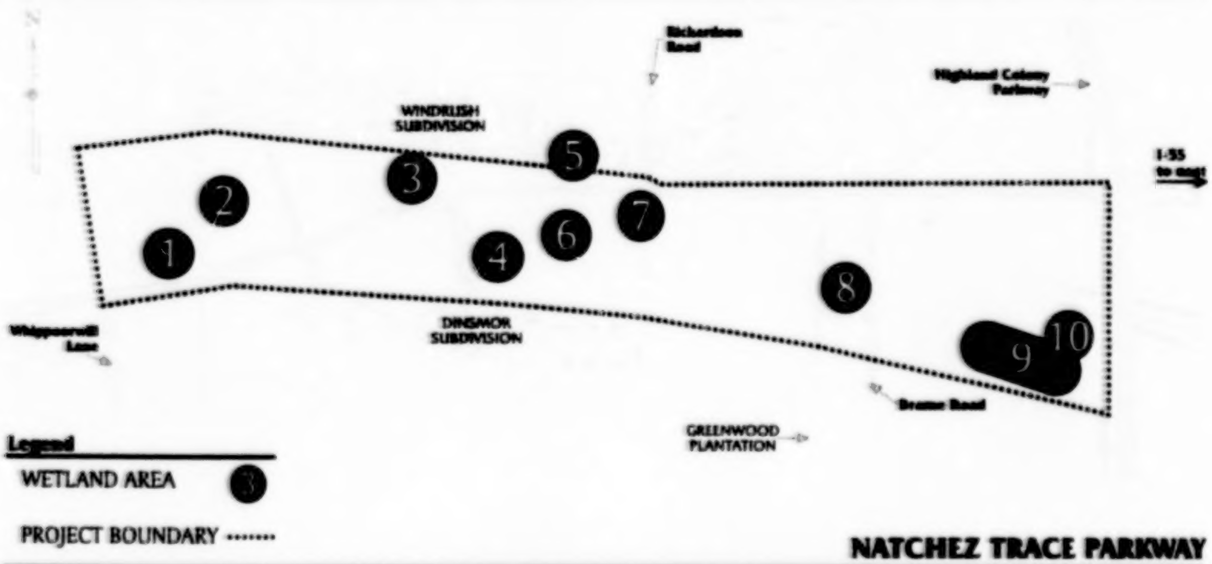
Wetlands. Surveys for wetlands in the project area were performed in March 1999 (NPS 1999). The wetland survey information included soil properties, wetland indicator vegetation, and hydrologic conditions. Previously published information was also reviewed to determine the approximate extent of wetlands on and adjacent to the project area. Wetlands identified in the project area exhibited the characteristics of jurisdictional wetlands as defined under section 404 of the Clean Water Act and the ecological conditions that correspond to the wetland classification system in the Cowardin classification of wetlands and deepwater habitat (USFWS 1979).

A total of 4.25 hectares (10.5 ac.) of wetlands were surveyed in approximately 10 different wetland areas within the project area. The approximate locations of these wetlands are described below.

Several wetland communities (palustrine and riverine) are contained within each wetland area. Palustrine wetlands are wet vegetated areas dominated by trees, shrubs, and persistent emergents that include areas such as bogs, marshes, swamps, and ponds. Riverine wetlands are those usually contained within or along a stream channel, and in the project area they are generally bounded by wetlands dominated by the palustrine vegetation mentioned above.

> **Wetland 1** is a palustrine forested wetland just east of Whippoorwill Lane in the southern portion of the project area. This wetland type contains a canopy dominated by mature water oak, American elm, green ash, and sweet gum. Canopy saplings, sugarberry saplings, winged elm, poison ivy and elderberry are present in the understory. The groundcover is dominated by Japanese honeysuckle, spring cress, and sedges. The total land area of this wetland is approximately 0.67 hectares (1.65 ac.). Approximately 80% of this acreage is within the project area; the remaining 20% extends beyond the area to the west.
>
> **Wetland 2** is adjacent to wetland 1. It consists of a palustrine open water pond with a palustrine scrub/shrub wetland fringe. Dominant scrub/shrub vegetation includes sweetgum saplings, winged elm, Japanese honeysuckle, and groundsel tree. The open water pond is 0.042 hectare (0.10 acre), and the scrub vegetation covers 0.11 hectare (0.28 ac.). The total area of wetland 2 is estimated at 0.15 hectare (0.38 ac.).

WETLANDS



SOURCE: March 1999 Field Review published in "Wetland Delineation Report for Natchez Trace Parkway" (April 7, 1999); US Fish and Wildlife Service National Wetland Inventory quadrangle maps; USDA Soil Conservation Service soil maps of Madison County, MS; Preliminary design maps by Federal Highway Administration; and "Biological Surveys for Section 3P Natchez Trace Parkway."

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Wetland 3 is another scrub/shrub wetland north of Old Agency Road in the vicinity of the Windrush subdivision. This wetland has similar characteristics and vegetation to wetland 2. This wetland is roughly 0.07 hectare (0.18 ac.).

Wetland 4 is a palustrine forested wetland adjacent to wetland 3 in a north/south orientation across the project area perpendicular to the proposed alignment. The canopy is dominated by water oak, American elm, green ash, and sweet gum. This wetland covers 0.30 hectare (0.73 ac.).

Wetland 5 consists of a series of ditches along the north and south sides of Old Agency Road between wetland 3 and Richardson Road. These are open water corridors with little or no vegetation. This wetland occupies roughly 0.29 hectare (0.73 ac.).

Wetland 6 is a palustrine forested wetland with a wide palustrine scrub/shrub wetland fringe. It is connected to wetland 4 at the southern boundary of the project area. The two areas combined form a U-shape beginning near the entrance to the Dinsmor subdivision along Old Agency Road, extending south to the project boundary, and north again to Old Agency Road west of Richardson Road. The land area of wetland 6 is 0.85 hectare (2.10 ac.).

Wetland 7 is a palustrine forested wetland in the southwest corner of Richardson Road and Old Agency Road. The tree canopy is dominated by water oak, American elm, green ash, and sweet gum. This wetland covers 0.14 hectare (0.35 ac.).

Wetland 8 is a long, linear palustrine-forested and riverine wetland that extends from the center of the study area near Greenwood Plantation Drive to the southwest corner of Brame Road. The forested area is 0.4 hectare (0.98 ac.) and the riverine area is 0.02 hectare (0.05 ac.). The total coverage of this wetland area is 0.42 hectare (1.03 ac.).

Wetland 9 is a linear wetland system comprised of palustrine forested wetlands, palustrine open water ponds, palustrine scrub/shrub wetlands, and palustrine emergent wetlands. The emergent wetlands include vegetation such as rush, sedges, seedbox, panic grass, and buttercup. This wetland extends from Brame Road to Highland Colony Parkway. This combination of wetland types occupies an estimated 1.31 hectares (3.24 ac.).

Wetland 10 is a small isolated palustrine emergent wetland just north of wetland 9 and includes species such as rush, sedges, seedbox, and panic grass. This wetland is 0.04 hectare (0.11 ac.).

With the exception of the isolated wetland 10, the wetlands west of Richardson Road are associated with unnamed tributaries of White Oak Creek. The wetlands east of Richardson Road drain to Purple Creek. Wetlands to the west of the study area drain into Hanging Moss Creek.

Wetlands within the project area provide the functions of flood storage, groundwater recharge, and groundwater discharge. The diversity of wetland and upland habitats provides habitat to a variety of wildlife species. Those wetlands delineated downstream of development and close to agricultural areas retain and remove pollutants and nutrients, thereby improving surface and groundwater quality.

Wildlife

During 1993 field reviews conducted for an environmental assessment for the extension of several water utilities across the national parkway, the wildlife species identified in the following table were found to occur within the parkway motor road corridor. None of these species is listed by the state of Mississippi or the U.S. Fish and Wildlife Service as endangered, threatened, or of special concern. Table 4 lists common species; it is not an exhaustive listing of all species occurring, or likely to occur, within the project area.

TABLE 4: WILDLIFE SPECIES WITHIN THE MOTOR ROAD CORRIDOR, NATCHEZ TRACE PARKWAY

Type / Common Name	Scientific Name	Type / Common Name	Scientific Name
Mammals White-tailed deer	*Odocoileus virginianus*	**Birds** American goldfinch	*Carduelis tristis*
Opossum	*Didelphis virginiana*	Northern mockingbird	*Mimus polyglottos*
Eastern mole	*Scalopus aquaticus*	Indigo bunting	*Passerina cyanea*
Southern short-tailed shrew	*Blarina carolinensis*	American Crow	*Corvus brachyrhynchos*
Least shrew	*Cryptotis parva*	Eastern meadowlark	*Sturnella magna*
Big brown bat	*Eptesicus fuscus*	Brown-headed cowbird	*Molothrus ater*
Eastern red bat	*Lasiurus borealis*	Blue-gray gnatcatcher	*Polioptila caerulea*
Nine-banded bat	*Dasypus novemcinctus*	Common yellowthroat	*Geothlypis trichas*
Eastern cottontail	*Sylvilagus floridanus*	Wood thrush	*Hylocichla mustlina*
Eastern chipmunk	*Tamias striatus*	Tufted titmouse	*Parus bicolor*
Eastern gray squirrel	*Sciurus carolinensis*	American robin	*Turdus migratorius*
Southern flying squirrel	*Glaucomys volans*	Blue jay	*Cyanocitta cristata*
Eastern harvest mouse	*Reithrodontomys humulis*	Hairy woodpecker	*Dendrocopos villosus*
White-footed mouse	*Peromyscus leucopus*	Carolina chickadee	*Parus carolinensis*
Golden mouse	*Ochrotomys nuttalli*	Rufous-sided towhee	*Pipilo erythrophthalmus*
Woodland vole	*Microtus pinetorum*	Ruby-crowned kinglet	*Regulus calendula*
Hispid cotton rat	*Sigmodon hispidus*	Northern cardinal	*Cardinalis cardinalis*
Red fox	*Vulpes vulpes*	Carolina wren	*Thryothorus ludovicianus*
Raccoon	*Procyon lotor*	Brown thrasher	*Toxostoma rufum*
Eastern spotted skunk	*Spilogale putorius*	White-throated sparrow	*Zontrichia albicollis*

Source: Mammals — Choate, Jones, and Jones 1994; Wolfe 1971; birds — Hays 1999.

Vegetation

Four types of upland communities were identified within the parkway motor road corridor (NPS 1999): mixed-hardwood forest, pine/oak forest, late successional fields, and agricultural fields. Each of these vegetation types is common in the Jackson area. While portions of each community could be lost within the project area, the impact would be negligible in the local/regional context.

Mixed-hardwood forest communities are adjacent to the palustrine forested wetlands in the western parkway motor road corridor. The canopy is dominated by water oak, with lesser amounts of Shumard oak, cherrybark oak, and black cherry. Canopy saplings, flowering dogwood, and blackberry are representative understory species. Poison ivy, Japanese honeysuckle, common blue violet, and spring beauty are common in the groundcover layer. Several mature individuals, most likely water oak (150+ years old) grow in the center of the project area east of the Dinsmor access road (wetland 6).

Pine/oak forest is in the central portion of the parkway motor road corridor to the west of Brame Road. Mature loblolly pine dominates the canopy. Shumard oak and water oak are infrequent in the canopy. Black cherry and water oak saplings and possumhaw typify the understory layer. Japanese honeysuckle is widespread throughout the groundcover layer.

Late successional fields are generally encountered in the central part of the parkway corridor. Sweet gum and loblolly pine saplings, eastern red cedar, winged elm, blackberry, wax myrtle, groundsel tree, goldenrod, Japanese honeysuckle, and little bluestem are common associates.

Agricultural fields are restricted to the east end of the parkway motor road corridor. The land to the east was used as pasture. A variety of grasses, false garlic, cranesbill, white clover, and Quaker lady bluets colonize the agricultural fields.

Threatened or Endangered Species, and Species of Special Concern

No federally listed threatened or endangered wildlife or plant species or their habitats were found in the project area during field surveys conducted by the U.S. Fish and Wildlife Service in July 1999 (see appendix B).

Table 5 lists state-protected wildlife species that occur within Madison County. Each species is listed followed by its status and the likelihood that its required habitat may occur in the project area. The likelihood that a species would occur was determined by consulting several written sources including biological surveys for Natchez Trace Parkway section 3P (NPS 1991), the Mississippi Natural Heritage Program database, and the U.S. Fish and Wildlife Service database for Madison County, Mississippi. No state or federally listed plant species of special concern occur within the study area. Appendix C provides a listing of state species of special concern.

TABLE 5: STATE-LISTED SPECIES WITH POTENTIAL FOR OCCURRENCE IN MADISON COUNTY, MISSISSIPPI

Common Name	Scientific Name	State Status	Federal Status	Description
Four-toed salamander	*Hemidactylium scutatum*	S	-	Occurrence unlikely
Webster's salamander	*Plethodon websteri*	S	-	Habitat not supported
Black-crowned night heron	*Nycticorax nycticorax*	S	-	Occurrence unlikely
Cooper's hawk	*Accipiter cooperi*	S	-	Parkway motor road not a threat to significant decline of this species
American kestrel	*Falco sparveritus*	S	-	None sighted but likely present
Loggerhead shrike	*Lanius ludovicianus*	S	-	Year-round resident — population augmented by migration each winter
Black vulture	*Coragyps atratus*	S	-	May feed along the parkway motor road
Turkey vulture	*Cathartes aura*	S	-	May feed along the parkway motor road
Osprey	*Pandion haliaetus*	S	-	Habitat not supported
Red-shouldered hawk	*Buteo lineatus*	S	-	Parkway motor road not a threat to significant decline of this species
Steelcolor shiner	*Notropis whipplei*	S	-	Habitat not supported
Common barn owl	*Tyto alba*	S	-	Should remain stable following construction
Western sand darter	*Ammocrypta clara*	S	-	Unlikely to occur
Hoary bat	*Lasiurus cinereus*	S	-	Occurs as a migrant
Mississippi map turtle	*Graptemys kohnii*	S	-	Habitat not supported
Cliff swallow	*Hirundo pyrrhonata*	S	-	Present only at large bridges
Bewick's wren	*Thryomanes bewickii*	S	-	None sighted — habitat suitable
Rock pocketbook	*Arcidens confragosus*	S	-	Habitat not supported for all of these mussels along the proposed parkway motor road extension right-of-way
White heelsplitter	*Lasmigona complanata*	S	-	
Alabama hickorynut	*Obovaria unicolor*	S	-	
Pyramid pigtoe	*Pleurobema pyramidatum*	S	-	
Inflated heelsplitter	*Potamilus inflatus*	S	T	
Rabbitsfoot	*Quadrula cylindrica*	S	E	
Wartyback	*Quadrula nodulata*	S	-	
Fawnsfoot	*Truncilla donaciformis*	S	-	
Deertoe	*Truncilla truncata*	S	-	
Mole kingsnake	*Lampropeltis calligaster rhombomaculata*	S	-	Protection needed, but no special management technique required to ensure survival

Note: E = Endangered Species; S = Mississippi State Species of Special Concern; T = Threatened Species

Source: "Mississippi Natural Heritage Database" (May 1999); "Biological Surveys for Section 3P, Natchez Trace Parkway" (1991); "Listed Species under USFWS Jurisdiction by State/Territory as of 12/31/97."

SOCIOECONOMIC ENVIRONMENT

Land Use

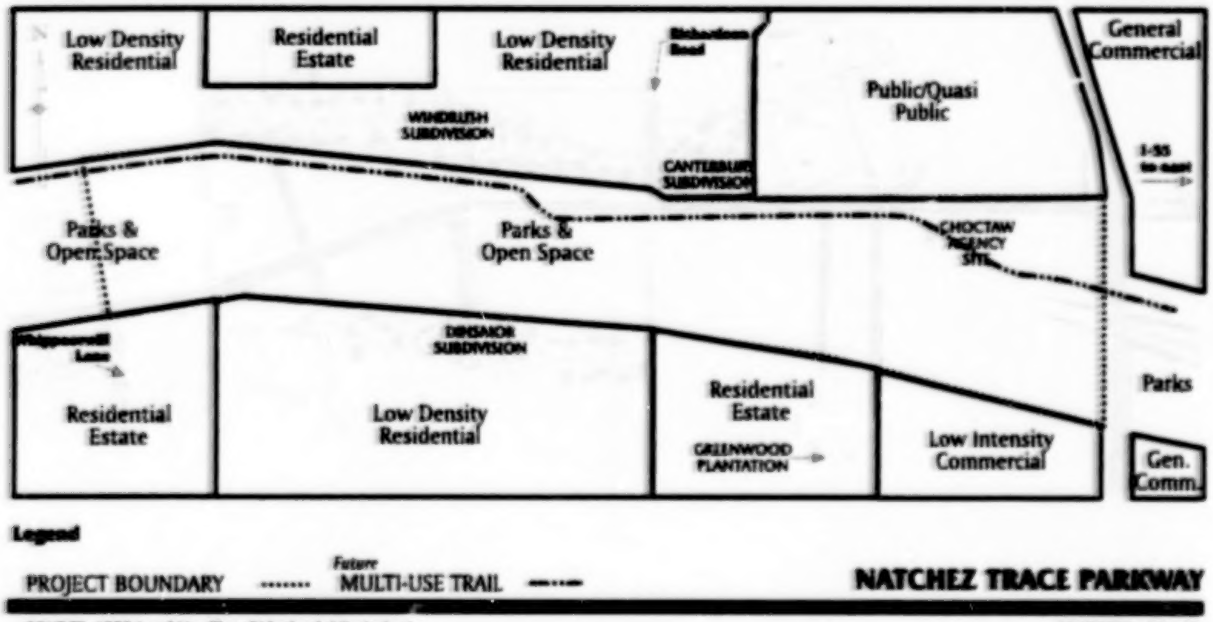
Local Comprehensive Plans. In the *Year 2020 Comprehensive Plan for the City of Ridgeland, Mississippi*, the primary land use shown adjacent to the parkway motor road corridor is public/quasi public. This use includes churches, schools, government buildings and facilities, and cemeteries. Low-density residential is also shown within a quarter mile of the parkway motor road corridor and includes the Windrush, Dinsmor, and Canterbury subdivisions.

Also shown within the vicinity are residential estate designations. These are primarily single-family detached residences on 1-acre sites, and the use is intended to promote the development of large-lot residential estates. These areas, which are north, southwest, and southeast of the parkway motor road corridor, may or may not be served by the municipal sewer system within the next 25 years.

The *Comprehensive Plan* shows the Natchez Trace Parkway extending from I-55 west to the vicinity of Whippoorwill Lane. It also shows the existing Old Agency Road as a collector road north of the proposed parkway motor road. Highland Colony Parkway is shown as a major arterial. (See Land Use Plan, Ridgeland, Mississippi.)

Adopted Long Range Transportation Plans. The long-range transportation plan update for Ridgeland lists the relocation of the Old Agency Road as a mid-term recommended improvement over the next 5–10 years, but does not show a location (p. 5-9).

LAND USE PLAN, RIDGELAND, MISSISSIPPI



SOURCE: 1999 Land Use Plan, Ridgeland, Mississippi

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Planned Developments. According to the Ridgeland Zoning Administration and Building Inspection Department (1999), developments planned for the vicinity of the Natchez Trace Parkway corridor include the following:

- A planned unit residential development located at Brame Road and Highland Colony Parkway (approximately 1.6 hectares / 4 acres) is being evaluated. No permit application has been filed. Developers are reviewing the site. This development would be approximately 1.25 kilometers (0.75 mi.) south of the parkway.
- A 130-unit elderly care center is planned for a site close to the entrance of the Dinsmor subdivision. The project is already permitted and ready for construction.

Visual Resources

The visual character of the Natchez Trace Parkway corridor is defined by gently rolling topography with a mix of densely wooded areas and open fields. The most striking visual features are dense woods and the overhead tree canopy. Both the wooded areas and the open fields have an intimate scale and a pristine visual character.

Visual Environment

Within the wooded areas, views are primarily foreground views defined by the dense woods, tree canopy, and the gently rolling topography (see photos 1 and 2). The wooded areas and tree canopy are primarily hardwood and mixed pine/oak forests. In addition, the woods include a dense understory that restricts the range and length of views.

Views across open cleared fields and thinned wooded areas provide middleground and sometimes distant views to visual features beyond the parkway corridor. The openness of the sunlit open fields provides strong visual contrast to the darkly shadowed and confined character of the wooded areas (see photos 3 and 4).

Man-made visual features, including residences, driveways, walls, and fences, are visually apparent, but do not dominate views, nor do they affect the overall visual character of wooded areas because of the density and mix of the trees, the towering vertical scale of the tree canopy, the gently rolling topography, and low shrubs that restrict the extent of the viewshed (see photo 5). Within or adjacent to the open fields or where the woods have been thinned, man-made features have become more visible because of the greater extent of the viewshed, the lack of eye-level screening, and the dominance of the tree canopy.

The office park development along Highland Colony Parkway east of the parkway corridor has a different visual character and scale because of the size of the developments and because much of the vegetation has been cleared. This is major contrast with developments along the parkway corridor where much of the existing vegetation has been preserved.

Photo 1. Foreground views defined by dense woods.

Photo 2. Trees and shrubs restrict the range of views.

Photo 3. Visual contrast of open, cleared areas.

Photo 4. Cleared areas provide middle ground for views.

Visual Experience

The visual character of the parkway corridor is experienced primarily from Old Agency Road and other local roads, including Richardson Road, Brame Road, the Greenwood Plantation access drive, Whippoorwill Lane, and the Dinsmor crossing roadway. Each is a narrow two-lane road, some unpaved, with overarching tree canopies that permit drivers and passengers to intimately experience the character and scale of the area without seeming to intrude, even though the experience is from a moving vehicle (see photo 6).

Visible historic and cultural sites that add visual quality, diversity, and interest include the Choctaw Agency site and Greenwood Plantation (see photos 7 and 8).

Visual Sensitivity

There is a direct relationship between the visual variety of the corridor and the visitor's positive experience of it. Historic and cultural sites are also important attractions. They encourage the travelers to view and experience the attractions and to gain pleasure from that experience. When traffic is heavy on Old Agency Road, however, the views and enjoyment are significantly reduced, and concerns about safety become paramount.

Frequent travelers in the corridor who regularly view and experience it become aware of both the large-scale visual features (dense woods, overhead canopy, open fields) and the small-scale visual elements that provide opportunities of interest and importance (individual trees, glimpses through the woods, a historic site). Sensitivity to the small-scale visual elements is a result of greater knowledge and familiarity due to increased viewing opportunities. Less frequent viewers will experience primarily the large-scale visual features because they are so striking and noticeable.

Residents of the area enjoy the scenery and visual environment, and they appreciate the role it plays in the quality of their lives. Many are concerned about protecting historic and cultural values. Residents generally have a high level of sensitivity to the importance of the visual environment.

Local Residents

Three recently developed upscale single-family residential communities abut portions of the parkway corridor. These include the Canterbury and Windrush subdivisions on the north at Richardson Road and the Dinsmor subdivision on the south. These are master planned communities with family amenities and distinctive homes. Each community has been developed within the last 20 years. Similar residential communities have been and are being developed farther north.

In addition, at the western end of the parkway corridor are some older, smaller single-family residences along Whippoorwill Lane and Mockingbird Lane. These were some of the original residences in the area.

Residents here have chosen to live in this outlying area because it is remote from the central urban core, yet it has convenient regional accessibility (primarily I-55 via Old Agency Road).

Photo 5. Reduced effect of man-made features in wooded areas.

Photo 6. Visual enclosure along Old Agency Road.

Photo 7. Choctaw Agency site from Old Agency Road.

Photo 8. Greenwood Plantation.

In addition, specific quality of life features make these attractive communities. These include adjacent, similar, high-quality planned residential developments with similarly priced homes; a rural setting with mature vegetation that provides privacy and seclusion; access to the outdoors; and a high sense of security and safety. There are high-quality public and private schools in the immediate area (St. Andrew's School, Madison-Ridgeland Academy), and access is primarily by way of local streets with relatively low traffic volumes, particularly north of the parkway corridor. Direct access to regional centers and recreation attractions, including Natchez Trace Parkway and Ross Barnett Reservoir, provide additional benefits. These quality of life elements make this area a most desirable residential location, and the preservation of these elements is the highest concern of residents along Whippoorwill Lane and in the residential Windrush, Canterbury, and Dinsmor subdivisions.

Noise

Noise Defined. Noise may be defined as unwanted sound. Sound is the pressure vibration that the human ear can detect. The unit measurement of sound pressure levels used to describe loudness is a decibel (db). Because the human ear does not have the sensitivity to detect low frequency noises, the A-weighted decibel scale (dB(A)) is calibrated to the human ear's response where zero is the threshold of hearing. Table 6 presents examples of noise levels common to everyday activities using the dB(A) scale. Also listed is the relative loudness that an average person would rate the sound sources, using a quiet urban daytime as a reference level. For the average human, an increase in the measured sound level of 10 dB is subjectively perceived as being twice as loud or 10 dB decrease is perceived as half as loud. The decibel change at which the average human will indicate that the sound is just perceptibly louder or perceptibly quieter is 3 dB.

Noise Ordinances. There are two sets of federal regulations for noise levels on federal highway projects: the original code (23 CFR 772) and the revised code, *Highway Traffic Noise Analysis and Abatement: Policy and Guidance* (HTNAA). In general, if a highway project receives federal funds, it must meet these regulations. The regulations at 23 CFR 772 provide procedures for noise studies, noise abatement measures and criteria, and requirements for distributing traffic noise information. The HTNAA document, a companion to 23 CFR 772, was released in June 1995 by the Federal Highway Administration to update and consolidate the previous regulations.

TABLE 6: QUALITATIVE DESCRIPTION OF TYPICALLY OCCURRING NOISE

Sound Level in dB(A)	Type of Noise	Relative Loudness of Different Noise Levels	Subjective Impression of Noise
110	Disco dance floor	128 times as loud	Uncomfortably Loud
90	Motorcycle at 25′	32 times as loud	Very Loud
85	D8 Cat Dozer at 50′		
80	Diesel truck, 40 mph at 50′	16 times as loud	Loud
75	Average car, 40 mph at 25′		
70	Vacuum cleaner at 3′	8 times as loud	
65	Conversation at 3′		
60	Background music	4 times as loud	
55	Air conditioning unit at 15′		
50	Quiet residential	Twice as loud	
45	Bird calls		Quiet
40	Lower limit urban daytime ambient	Reference loudness	
30	Background quiet suburban at night	1/2 as loud	
20	Quiet whisper	1/4 as loud	Barely Audible
0	Threshold of Hearing		

Source: Engineering Dynamics 1999.

The *Mississippi Highway Traffic Noise Policy* was approved by the Federal Highway Administration in November 1996, and its policies and procedures are consistent with federal regulations.

Ridgeland's noise control ordinance, section 910017, identifies noise limits of 55 dB(A) for daytime hours and 50 dB(A) for nighttime hours for agricultural and residential properties. No limits are identified that pertain to roadway traffic noise. Construction noise, including excavation, is exempt from the agricultural and residential property noise limits from 7 A.M. to 6 P.M. Monday through Saturday and 9 A.M. to 6 P.M. on Sunday.

Existing Background Noise Levels. The project area is relatively isolated and except for occasional overflights by helicopters and aircraft, vehicle traffic on Old Agency Road is the dominant noise source in the area. The area is typical of most suburban developments away from a city center.

In April 1999 noise level measurements of the existing background and traffic noise along Old Agency Road were performed within the corridor at three locations (see the Noise Conditions map):

> Site 1 — 152.5 meters (500 ft) west of Old Agency Road and Dinsmor Road, at a distance of 30.5 meters (100 ft.) south of Old Agency Road.
>
> Site 2 — At the intersection of Old Agency Road and Dinsmor Road, at a distance of 30.5 meters (100 ft.) north of Old Agency Road and 3 meters (10 ft.) south of the masonry wall along the eastside of the Windrush subdivision.
>
> Site 3 — On Brame Road, at a distance of 305 meters (1,000 ft.) south of Old Agency Road.

For residences near Old Agency Road, daytime average noise levels can reach 60 dB(A), with nighttime levels in the low 40s. This is expected, given the proximity of the measurement locations to the road. At site 3 and for areas farther away from Old Agency Road, the noise environment is relatively quiet at 45 dB(A). Traffic noise is audible, but not dominant. Table 7 lists the measured ambient noise levels at these locations.

NOISE CONDITIONS

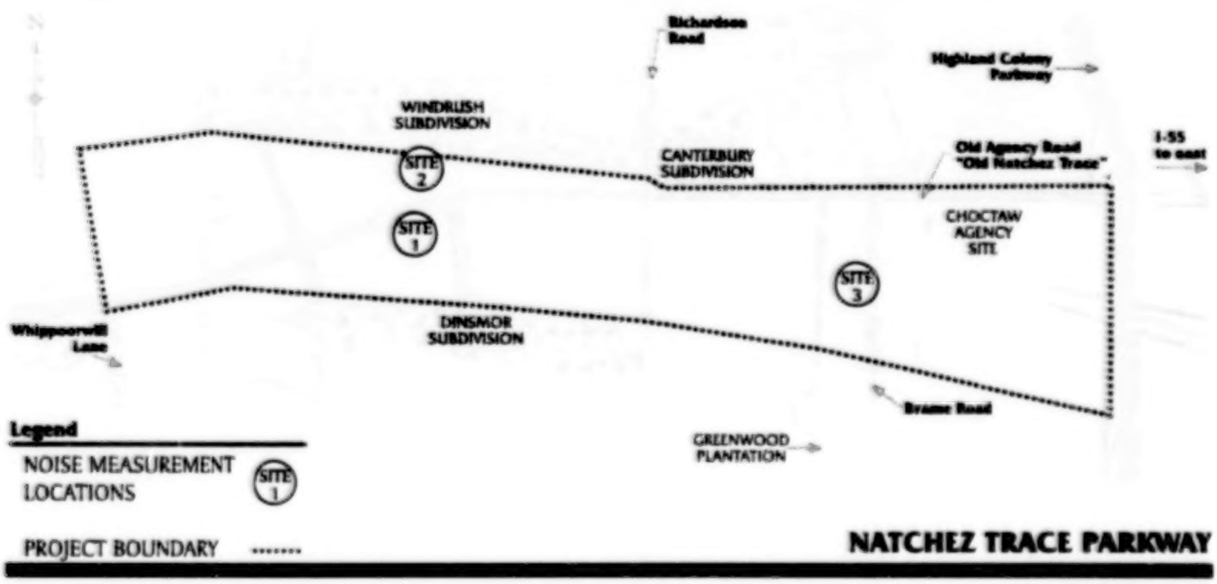

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TABLE 7: MEASURED AMBIENT NOISE LEVELS

Measurement Site	Type of Land Use	Distance from Noise Source	Measured Noise Level Range Leq dB(A)
Location 1	Residential	30.5 m (100 ft.)	50 dB(A) (8:00 A.M.) – 33 dB(A) (12:00 – 3:00 A.M.)
Location 2	Residential	30.5 m (100 ft.)	57 dB(A) (9:00 A.M.) – 40 dB(A) (1:00 – 5:00 P.M.)
Location 3	Undeveloped	305 m (1,000 ft.)	45 dB(A) (4:00 A.M.) – 40 dB(A) (1:00 A.M. and 1:00 P.M.)

Source: Engineering Dynamics, Inc., 1999.

Hazardous Materials

No hazardous materials surveys have been conducted, and no hazardous materials have been identified. However, some industries in the vicinity of the project area may transport hazardous materials through the project area on the road network.

ENVIRONMENTAL CONSEQUENCES

This chapter describes the impacts of implementing the alternatives. It begins with a description of methodologies and assumptions for each impact topic (or resource) outlined in the "Affected Environment." The analysis of impacts follows and is grouped first by alternative and second by impact topic. The analysis for each impact topic includes a description of the impacts related to a particular alternative, the duration and intensity of the impact, a review of applicable mitigation measures, an assessment of potential cumulative impacts, and a conclusion. Impact topics that were considered but were dismissed from further analysis are identified on page 63.

ASSUMPTIONS AND METHODOLOGIES FOR ANALYZING IMPACTS

Impact Analysis

As required by the National Environmental Policy Act, direct, indirect, and cumulative impacts are identified and characterized in the impact analysis for each alternative.

Impact Intensity and Duration

The NPS draft *DO-12: NEPA Compliance Guideline* (1997) suggests an approach to identifying the intensity (or magnitude) and duration of impacts. Indicators of the intensity of an impact, whether it be negligible, minor, moderate, or major, are included in the impact analysis. Unless otherwise noted in the individual methodology sections (such as transportation and wetlands), impact intensities are defined as follows:

Negligible — The impact is not measurable or perceptible.

Minor — The impact is measurable or perceptible, but slight. The overall viability of the resource would not be affected. Left alone, the resource would recover, and the impact would be reversed.

Moderate — The impact is sufficient to cause a change in the resource (e.g., abundance, distribution, quantity, or quality). The change is measurable and perceptible but could be reversed.

Major — The impact is substantial, highly noticeable, and may be permanent.

The planning horizon for this project was identified as approximately 15–20 years. Impacts that would occur during this timeframe were identified and classified as either short term or long term. In most cases, short term would be five years or less, and long term five years or more. Where duration is not noted in the impact analysis, it is assumed to be long term.

Impacts may also be adverse (negative) or beneficial (positive). Unless otherwise noted, impacts are considered adverse and cause a negative impact.

Mitigation

Mitigating actions are listed in the "Alternatives, Including the Proposed Action" chapter. All impacts have been assessed assuming that mitigating measures have already been completed.

Cumulative Impacts

In 40 CFR 1508.7 a cumulative impact is defined as the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Some past, present, and future projects in the Ridgeland area could affect recreational opportunities and traffic patterns. Current or proposed projects that need to be considered in the analysis of cumulative impacts include a multi-use trail that will extend through the parkway motor road right-of-way, state and local transportation plans, and parkway projects. The long-range transportation plans are discussed in the "Affected Environment" in the transportation and land use sections.

Multi-Use Trail

An approximately 36 kilometer (20 mi.) multi-use trail is proposed along the Natchez Trace Parkway in the Jackson, Mississippi, metropolitan area. The proposed trail identified in the 1996 "Finding of No Significant Impact" is the alternative selected to determine cumulative impacts. The preferred alternative proposed a paved, multi-use trail designed to accommodate nonmotorized recreational uses, such as hiking and biking. The trail would be designed to minimize conflicts between trail users and vehicular traffic on adjacent roadways. Within the project area, the trail would be located to the north of the parkway motor road, within the parkway right-of way, and would parallel the parkway motor road. The width of the trail would be 2.4 meters (8 ft.), with an additional 0.6 meter (2 ft.) of clearing on each side. Trail bridges would be a minimum width of 3.1 meters (10 ft.). The trail would link to surrounding communities and would be accessible at all at-grade crossings. Six existing parking areas and four planned parking areas would provide access to the trail, as well as access to the parkway motor road. One of these parking areas, the Choctaw Agency site parking area, would be located within the project area.

The trail would cross three drainages within the project area. West of the intersection of Old Agency and Richardson Roads, the trail would span two shallow drainages, the first on a trail bridge and the second over a pipe culvert. East of the Choctaw Agency site the trail would cross Highland Colony Parkway on a trail bridge before crossing Purple Creek on an extension of a box culvert.

Mississippi Department of Transportation Projects

The Mississippi Department of Transportation will replace, widen, and lengthen the parkway bridge that spans I-55 east of the project area. A bicycle lane will be included as part of the project.

Other Natchez Trace Parkway Improvements in Section 3P

Section 3P14. This section includes parkway motor road bridges that are being constructed over Highland Colony Parkway (just east of section 3P13) and U.S. Highway 49.

Section 3P3. This section includes parkway grading and drainage work between Highland Colony Parkway and I-55, the realignment of the I-55 access connector, and rehabilitation of parkway paving between I-55 and the parkway access connector at U.S. 51.

Section 3P10. This section is the final surfacing and shoulder work on the entire 3P section of the parkway.

Section 3P11. This section consists of realigning Cynthia Road (southeast of the 3P13 project area), including the Cynthia Road bridge over the parkway.

Section 3P4. This section within the city of Clinton includes the realignment of a portion of West Northside Drive and Vernon Drive, and grading and providing drainage for the parkway between I-20 and U.S. 49, along with other roadways in Clinton.

Section 3P9. This section includes the construction of parkway bridges over the railroad, West Northside Drive, Pinehaven Drive, Arrow Drive, Bogue Chitto Stream, and County Road "G" within the limits of the 3P9 project.

Methodologies

Transportation

Several local roads are within or cross the alignment of the parkway motor road. Changes to these roadways under different alternatives affect the access, volume, and safety of the transportation system. For each of these three impact topics, the following impact definitions are provided:

Access. Each alternative could restrict or eliminate access movements for certain areas. These changes could require drivers to travel out of their normal direction to access the main roads. Access impacts were evaluated by determining if vehicle movements would be restricted, if out-of-direction travel would be required, or if any detour would be inconvenient for each of the major access points by affecting travel time. The impacts are defined as follows:

> *Negligible* — No change to permitted movements or direction of travel would occur.
>
> *Minor* — Access movements would be restricted or the access location would change for only one or two local roads, while maintaining travel in all directions with minimal rerouting.
>
> *Moderate* — A restriction in access movement or relocation of an access would occur that required a significant change in the travel route.
>
> *Major* — The permitted turn movements would be reduced, and a direction of travel would be eliminated, requiring a significant change in travel route for one or more roads.

Where the change in access would improve existing conditions or where the change in travel route would create a shorter, more direct trip, the impacts would be considered positive or beneficial. If access was restricted and out-of-direction travel was required, the impact would be considered adverse. Both short- and long-term impacts to access could be experienced.

Volumes. Existing traffic volumes on Old Agency Road were provided for 1997 in the "Safety Study: Old Agency Road" (FHWA 1999). These volumes were used in conjunction with forecasted 2020 volumes at limited locations on Old Agency Road and the parkway motor road (Waggoner 1996) to estimate future volumes for all road segments within the study area. For this study, the total future traffic volumes remain the same for each alternative, but volumes shift to different roads, depending on the configuration of the alternative.

Impacts to roadway volumes are considered long term. Where volumes would decrease, impacts are considered positive. Conversely, where volumes would increase, the impact would be negative. Since volumes on the parkway motor road would remain the same under all alternatives, only volumes on Old Agency Road and Old Agency Road Relocated were evaluated. The intensity of impacts are defined as follows:

Negligible — There would be no change in roadway volume over existing conditions.

Minor — Volumes would change by less than 10% for existing roads or volumes on new roads would be less than 3,000 vehicles per day.

Moderate — Volumes would change by 10% to 50% for existing roads, or volumes on new roads would be between 3,000 and 5,000 vehicles per day.

Major — Volumes would change by more than 50% on existing roads, or volumes on new roads would be over 5,000 vehicles per day.

Safety. Changes to the roadway system were conceptually evaluated from a safety standpoint. Geometric features such as intersection alignment, sight distance, and road cross-sections were evaluated. Ideally, roadways should intersect at right angles to provide maximum sight distance and maneuverability. Adequate sight distance should be provided in accordance with the standards of the American Association of State Highway and Transportation Officials (AASHTO) to facilitate exiting and entering cross-streets. Road cross-sections should provide adequate width for travel lanes and include a shoulder. Beneficial impacts would improve from existing conditions; negative or adverse impacts would be less than existing conditions. The impacts for safety are defined as follows:

Negligible — No changes in sight distance or road alignment would occur.

Minor — Changes in sight distance would occur at only a few intersections with no road alignment issues.

Moderate — Changes to sight distance at most intersections or road alignment issues could occur at most intersections.

Major — There would be significant changes to sight distance and road alignment criteria at most intersections.

Cultural Resources

All federal actions affecting cultural resources are subject to the provisions of the National Historic Preservation Act of 1966, as amended, and the National Environmental Policy Act, as amended. More specifically, sections 106 and 110 of the National Historic Preservation Act, under terms of the 1995 programmatic agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers, require federal agencies to perform the following:

Assess the impacts of their proposed actions on cultural resources included on, or eligible for inclusion on, the National Register of Historic Places.

Avoid or mitigate impacts on cultural resources affected by their proposed actions.

Allow other federal, state, and local organizations carrying out historic preservation planning activities, including Native American tribes and the interested public, the opportunity to comment on the proposed actions.

Accordingly, this document will be submitted to the Mississippi Department of Archives and History (the state historic preservation office), the Advisory Council on Historic Preservation, affiliated Native American tribes, and the interested public for review and comment.

The assessment of impacts on cultural resources followed a three-step process: (1) determining the area of potential effect of the proposed actions; (2) identifying the cultural resources within the area of potential effect that are either listed on or eligible for listing on the National Register of Historic Places (see the "Cultural Resources" section in the "Affected Environment" chapter); and (3) assessing the extent and type of impacts the proposed actions might have on cultural resources. An impact on cultural resources occurs if an action would have the potential to alter in any way the characteristics that qualify the resource for inclusion on the national register. If a proposed action diminished the integrity of such characteristics, it is considered to have an adverse effect. Impacts that might occur later than or at a distance from the location of a proposed action would also be potential impacts of the action and would be indirect effects.

Socioeconomic Environment

Land Use. Comprehensive plans and long-range transportation plans were collected and reviewed for the region in which section 3P13 is located. Relevant information included future land use plans, future roadway improvement or construction projects, and planned development activities. Telephone interviews were also conducted with planners from the city of Jackson, Madison County, and the city of Ridgeland.

Visual Resources. The basic elements that constitute the most desirable visual features were defined based on public comments. Quantifiable impacts to basic elements such as vegetation were then used to judge the extent of effect for each project alternative.

Recreational Users and Facilities. Impacts of recreational and interpretive opportunities for parkway users were analyzed.

Local Residents. Topics to analyze were initially developed from comments recorded at the project scoping meeting. Concerns primarily focused on potential quality of life impacts to adjacent residential subdivisions. In addition, residents expressed various concerns about local changes they thought would affect their daily lives. Concerns expressed most often were considered to have the greatest importance. The real estate market in the greater area was also analyzed, and some assumptions were made about what constituted the most desirable (higher quality) residential locations. Desirable elements that were applicable to the adjacent subdivisions were identified, along with the potential impacts.

Noise. The methodology used to assess impacts is outlined in 23 CFR 772 (see the "Affected Environment") and generally required by the Federal Highway Administration for projects that are federally funded. Although this section of the parkway motor road is located within the Ridgeland city limits, the city noise control ordinance has no standards that define noise limits for roadway traffic noise.

Noise level impacts are presented for eight areas: six residential areas adjacent to the project area, Greenwood Plantation, and the Choctaw Agency site. The residential areas include the east and west ends of the Windrush subdivision, the east and west ends of the Dinsmor subdivision, the Canterbury subdivision, and residences south of the NPS right-of-way along Brame Road.

The FHWA Traffic Noise Prediction Model (STAMINA 2.0) was used to generate noise contour data and to predict traffic noise at each residential location by alternative. Using existing traffic volumes, noise levels for 1999 were modeled for each residential location. Peak-hour traffic volumes (per 23 CFR 772) were then projected to the years 2003 and 2020, consistent with the traffic analysis. Future vehicle noise levels were determined under the following scenarios: existing noise levels; noise levels in 2003 assuming implementation of each alternative; and noise levels in 2020 assuming implementation of each alternative.

Traffic noise levels will vary depending on actual traffic volumes, atmospheric conditions, vegetation density, and topography. However, in the model, variations in atmospheric conditions and vegetation density are not taken into account. The topography across the site is relatively flat (in terms of noise propagation); thus, no adjustments were required. Existing noise barriers along the south side of the Windrush and Canterbury subdivisions and along the north side of the Dinsmor subdivision were taken into account in the analysis.

Noise level changes (increases or decreases) were determined by comparing existing conditions to the measured data for each alternative to determine if the noise levels would exceed FHWA noise abatement criteria (NAC) limits. Table 8 shows these limits for different land uses based on exterior hourly Leq levels. The calculated hourly Leq levels are based on peak-hour traffic volumes.

TABLE 8: DESIRABLE NOISE LEVEL ABATEMENT CRITERIA UNDER 23 CFR 772

Activity Category	Hourly Noise Level Leq(h)[1] dB(A)	Description of Activity Category
A	57 (exterior)	Lands where serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (exterior)	Developed lands, properties, or activities not included in category A or B.
D	n/a	Undeveloped lands
E	52 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: FHWA, *Highway Traffic Noise Analysis and Abatement: Policy and Guidance.*

1. Leq(h) is the average (equivalent) of all sound levels occurring during a specific hour at a particular location

Within and near the project area are several culturally significant properties — the Choctaw Agency site, a section of the Old Natchez Trace (Old Agency Road), and the Greenwood Plantation (which is approximately 162 meters [530 ft.] south of the corridor). Under 23 CFR 772, these areas would be assigned to activity category A, with a maximum exterior noise of 57 dB(A) in vicinity of these sites if "serenity and quiet [we]re of extraordinary significance and serve an important public need." Although culturally significant, serenity and quiet have not been identified as significant qualities at these sites. Old Agency Road (which corresponds to the section of Old Natchez Trace) in the project area is now paved and carries large volumes of traffic. Therefore, these sites were classified as category B, which includes parks, picnic areas, recreation areas, and residences.

Along edges of the NPS right-of-way are the Windrush and Canterbury subdivisions to the north, and Dinsmor subdivision and Brame Road to the south. In addition, St. Andrew's School is along the northern edge of the corridor immediately east of the Canterbury subdivision. Maximum exterior noise in the vicinity of these residential and school sites is limited to 67 dB(A), FHWA activity category B.

Based on this analysis, the dB(A) level at which a substantial noise impact would result and mitigation must occur is at or approaching 67 dB(A) for each of the areas identified above. In accordance with Mississippi state noise policy, there would also be a substantial impact if a site was predicted to incur an increase of 15 dB(A) more than existing noise levels. Because the predicted changes in noise levels were not substantial, but would be noticeable, the following changes in dB(A) levels were used to identify the intensity of a noise impact. These intensities were derived from FHWA guidance for performing noise impact analyses (FHWA 1995).

Negligible — A 0 to 5 dB(A) change in noise levels

Minor — A 6 to 10 dB(A) change in noise levels

Moderate — An 11 to 15 dB(A) change in noise levels

Major — Greater than a 15 dB(A) change in noise levels

Variation in noise levels between the alternatives is negligible because the parkway motor road traffic volumes and the resulting noise levels would be the same in each alternative. The parkway motor road is the predominant source of noise in all alternatives.

IMPACT TOPICS CONSIDERED BUT DISMISSED FROM FURTHER ANALYSIS

Prime and Unique Farmlands

Federal agencies must assess the effects of their actions on farmland soils classified by the U.S. Department of Agriculture's Natural Resources Conservation Service as prime or unique. As identified in the "Affected Environment," there are no productive farmlands within the project area, and no impacts to prime farmlands would occur.

Floodplains

There are 100-year floodplains associated with Purple Creek on the eastern edge of the project area. A negligible amount of the floodplain borders Highland Colony Parkway and the project area where the parkway motor road would connect with Highland Colony Parkway to the east. Any potential impact would be negligible because tributaries to Purple Creek would continue to flow unimpeded through the culvert, and the character or drainage pattern of Purple Creek or its tributaries would not be altered. Therefore, impacts on floodplains in all alternatives would be negligible.

NPS *Floodplain Management Guidelines* exempt "entrance, access, and internal roads to or within National Park Service units" from floodplain compliance procedures. Because the only actions proposed in alternatives 1 through 5 would be the construction of roads, all actions in these alternatives would be considered exempt.

Environmental Justice

Executive Order 12898, "General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requires all federal agencies to address disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. Because none of the alternatives would affect minorities or low-income populations or communities as defined in the Environmental Protection Agency's "Draft Environmental Justice Guidance" (July 1996), environmental justice was not addressed.

IMPACTS OF ALTERNATIVE 1: NO ACTION

Transportation / Traffic Impacts

Access

Analysis. Closing Old Agency Road from near Whippoorwill Lane to Richardson Road would increase the travel time for local drivers compared to existing conditions, creating a minor negative impact over the short and long term. The existing Old Agency Road would form a T intersection at Old Agency Road Relocated. This change in road alignment could have minor impacts to travel time but negligible impacts to access. The access to Richardson Road and the St. Andrew's athletic fields from Old Agency Road would remain.

Access changes to Dinsmor subdivision from Old Agency Road to Old Agency Road Relocated might shorten the travel distance slightly. The access drives for Greenwood Plantation and Brame Road would be combined into one access road intersecting Old Agency Road Relocated. Since traffic volumes are estimated to be low for both access points, the combination of access points should not affect travel time. The slight geometric changes would negligibly affect current movements and travel routes on these local roads. The secondary St. Andrew's School access would remain; however, access to the athletic fields would be negligibly affected by the alignment.

No direct local access would be provided to the parkway motor road, in accordance with the legislation establishing the parkway, with negligible effects to parkway traffic. No access would be provided from the parkway motor road to the Choctaw Agency site due to the proximity of the bridge for the Old Agency Road Relocated.

Cumulative Impacts. Ongoing improvements and additions to the parkway motor road both northeast and southwest of the project area would continue to improve interstate recreational travel along the parkway. The addition of this segment of parkway in conjunction with other improvements would further the completion of the parkway motor road.

Conclusion. Impacts to access would be minor. Travel would remain generally the same. Even though there would be slight geometric changes in road alignments, access would still be provided in all travel directions for each local road.

Volumes

Analysis. This alternative is expected to have minor impacts on traffic volumes. Traffic volumes from Old Agency Road would be shifted to Old Agency Road Relocated and would generally remain at the same levels (approximately 10,000 vehicles per day near Highland Colony Parkway). Volumes on the segment of Old Agency Road west of the intersection with Old Agency Road Relocated would be reduced slightly since through-trips (approximately 3,000 vehicles per day) would be shifted to the new road.

The parkway motor road would be constructed with limited local access at I-55. Due to limited east-west transportation routes in the vicinity of the project area, traffic volumes could increase from 7,200 vehicles per day in 2003 to approximately 18,000 vehicles per day in 2020 because of local growth in commuter traffic. However, if other local east-west routes were developed as proposed in local long-range transportation plans, this increase would be substantially less (see cumulative impacts).

Cumulative Impacts. Traffic volumes on the new parkway motor road segment could increase if it was used by commuters, creating more congested conditions and degrading the experience for recreational travelers. Proposed long-range improvements in the Ridgeland *Transportation Plan Update* include constructing additional, more direct east-west corridors that would alleviate the use of the parkway motor road by commuter traffic.

Conclusion. Volume impacts would be minor since local road alignments would be relocated, and volumes would just be shifted to the new alignments.

Safety

Analysis. Impacts to safety would be moderate. Relocating access to the Dinsmor subdivision should improve sight distance, thus reducing accident potential. The new intersection for Brame Road would have to be designed to accommodate adequate sight distances considering the curve in Old Agency Road Relocated and the bridge under the parkway motor road. Reconfiguring the intersection at Richardson Road and Old Agency Road would reduce vehicular conflicts and improve safety. Mitigations to improve safety would include designing Old Agency Road Relocated to provide adequate sight distances for all approaches and to meet AASHTO design requirements for the clear zone. Improvements to the intersection and the relocated roadway should improve overall road safety. However, the existing portions of Old Agency Road that were not improved east of Richardson Road would still have safety issues due to the narrow cross-section, narrow lanes, uneven grade, and limited sight distance.

Cumulative Impacts. A potential reduction in commuter traffic on the parkway motor road once other east-west connector streets were constructed would enhance safety.

Conclusion. Safety would be moderately improved by reconfiguring existing accesses and constructing new access points with improved sight distances. Portions of Old Agency Road with safety concerns would remain unimproved.

Cultural Resource Impacts

Historic Sites

Analysis. The route of the Old Natchez Trace is listed on the National Register of Historic Places. Closing a 0.7 kilometer (0.4 mi.) portion of the road from near Whippoorwill Lane to Richardson Road and constructing an approximately at-grade parkway crossing would have a moderate adverse effect. This would occur as a consequence of the physical disturbance associated with truncating the road segment. The closed road segment would be restored to an appearance approximating what was likely typical during the Trace's early 19th century period of significance, which would have a beneficial effect.

Removing a portion of the Greenwood Plantation access drive within the NPS right-of-way would have a moderate adverse effect on the plantation, which is eligible for listing on the national register. The access drive is a contributing element of the plantation, and its closure and disturbance would irretrievably alter the historic approach to the property. Photo-documentation of the access drive would be a possible mitigation alternative to provide an archival record of the drive's current character-defining attributes.

There is also a possibility that increased levels of traffic noise could be experienced at the plantation because of vehicles traveling along Old Agency Road Relocated and the Natchez Trace Parkway (both would pass within approximately 305 meters, or 1,000 feet, of the plantation).

Cumulative Impacts. In relation to other past, present, and reasonably foreseeable actions, closing and removing a portion of Old Agency Road (Old Natchez Trace) would represent an incremental loss of designed structural features/materials, patterns of transportation use, and character-defining qualities of the road corridor. While sections of Old Agency Road would remain open outside the parkway corridor, the experience of motorists as they drive along the extended road corridor would be substantially diminished.

Conclusion. Alternative 1 would cause a long-term, moderate adverse impact to a 0.7 kilometer (0.4 mi.) portion of the historic Old Natchez Trace (Old Agency Road). The road's patterns of historic circulation and use, as well as character-defining qualities, would be substantially altered or lost. Restoring the road to Old Trace appearances would help mitigate the impact. Removing most of the Greenwood Plantation access drive, which is a cultural landscape feature contributing to the plantation's historical significance, would eliminate a traditional use and alter the historic approach to this property, a moderate adverse impact on the property's overall historical integrity.

Archeological Resources

Analysis. The Choctaw Agency site would be avoided by construction disturbance. Archeological monitoring could be required during construction, however, to ensure site protection where Old Agency Road Relocated is proposed to connect with existing Old Agency Road near the western periphery of the site (east of Brame Road). Upon completion, the National Park Service would routinely patrol, monitor, and conduct site protection measures to ensure that these significant archeological resources were protected and preserved. This alternative would not specifically provide for parking and public interpretation of the site, but these measures could be implemented at a future date. The park would undertake appropriate site protection measures to avoid or mitigate potential adverse effects before opening the site to public interpretation. Other archeological sites in the project area have been determined ineligible for the national register. Therefore, possible construction disturbance of these sites is not expected to adversely affect significant archeological information.

Cumulative Impacts. No cumulative impacts were identified.

Conclusion. The Choctaw Agency site would be avoided by construction disturbance and would not be affected.

Natural Resources

Air Quality

Analysis. Peak-hour traffic volumes in alternative 1 for Old Agency Road west of Highland Colony Parkway are projected to be 788 vehicles in 2003 and 2,100 vehicles in 2020. Alternative 1 was subjected to a graphical screening test, which makes various conservative, worst case assumptions about meteorological conditions, traffic, and site conditions. (In order to model the worst case scenario, the CO screening test defaults to a vehicular speed of 40 kph [25 mph], even though the actual speeds could be higher.) The critical distance for a CO screen is the distance a receptor can be from a given roadway without experiencing any chance of a significant air quality impact. Table 9 shows that for the expected traffic volumes and speeds the critical distance for a CO screen would be less than 3.1 meters (10 ft.) in 2003 and 5.9 meters (18 ft.) in 2020.

No receptors are located within the critical distance; therefore, no exceedances of the national ambient air quality standards are anticipated, and air quality impacts would be negligible.

TABLE 9: AIR QUALITY DATA SUMMARY, ALTERNATIVE 1

Year	Average Speed	Design-Hour Traffic Volumes	Critical Distance	Closest Receptor
2003	40 kph (25 mph)	788	<3.1 m (<10 ft.)	Approx. 30.5 m (100 ft.)
2020	40 kph (25 mph)	2,100	5.9 m (18 ft.)	Approx. 30.5 m (100 ft.)

Cumulative Impacts. Traffic volumes on other roadways throughout the study area would continue to increase as population increased. However, the cumulative effect of the combined traffic volumes are not expected to exceed the national ambient air quality standards for carbon monoxide.

Conclusion. Alternative 1 would have negligible impacts on air quality in both the short and long term. Alternative 1 would not violate the national ambient air quality standards for carbon monoxide. No mitigation measures would be required with this alternative.

Soils

Analysis. The parkway motor road, Old Agency Road Relocated, and new access routes would be constructed through soils classified as silt loams, which have low strength for streets and roads. Low strengths result because the subsoil and underlying clayey material shrinks and swells with seasonal changes in moisture and occasional flooding. Mitigations would be taken to reduce these effects (see page 25).

Soil erosion would result from the clearing of some vegetation from the project area, exposing project soils to erosive water and wind action. Some soils could be enhanced and improved with the removal of roads and the restoration of vegetation. A soil erosion control plan specifically designed for the selected alternative would be prepared and implemented during the construction phase, as described in "Mitigations for Special Resource Concerns" (see page 26).

Long-term and negligible impacts on project area soils would include excavation, the mixing of soil horizons, and the addition of aggregate fill and road surface pavement over existing soils. The exact amount of soil that would be excavated is unknown for each alternative; however, 10.5 hectares (25.8 ac.) of vegetation would be affected by this alternative, which is indicative of the surface acreage of soil that would be impacted by construction.

Cumulative Impacts. No cumulative impacts were identified under this alternative.

Conclusion. Long-term, negligible impacts would occur to soils due to excavation. Mitigation efforts would be undertaken to prevent soil erosion and to address the expansive characteristics of local soils.

Wetlands

Analysis. A total of 0.6 hectare (1.5 acres) of riverine and palustrine wetlands would be permanently filled as a result of constructing the parkway motor road, relocating Old Agency Road, and developing new access roads to Brame Road and Greenwood Plantation from the relocated Old Agency Road. Table 10 identifies the potential adverse or beneficial impacts to wetland areas 1 through 10 (see "Affected Environment" for location).

TABLE 10: WETLAND IMPACTS, ALTERNATIVE 1

Wetland	Size of Wetland Affected	Percentage of Wetland Area Affected	Impact Intensity and Direction
1	<0.01 ha (<0.01 ac.)	0.3	negligible adverse
2	0	0	no impact
3	0	0	no impact
4 and 6	0.4 ha (1.1 ac.)	40	major adverse
5	0	0	minor beneficial
7	0	0	minor beneficial
8	0.2 ha (0.4 ac.)	38	major adverse
9	0	0	no impact
10	0	0	no impact

Impacts have been analyzed assuming that mitigations would be in place (see page 26). All wetlands would be flagged before construction, and all construction activity would avoid these areas to the extent possible. Where roads were developed through wetlands, no disturbance would take place outside the construction limits of the project, and measures necessary to protect the integrity of the wetland would be implemented. Some of these measures would include using temporary erosion control devices and redirecting flowing and intermittent streams through culverts during construction. Selective clearing in wetlands would be permitted, provided stumps were not grubbed and ground disturbance was avoided.

Long-term adverse impacts would occur in wetland areas 1, 4, 6, and 8 because of the placement of fill to construct new roadbeds and shoulders. The remaining wetland areas (2, 3, 5, 7, 9, 10) would not be adversely affected in the long term, although some short-term impacts, such as soil compaction and damage to wetland vegetation, could occur as equipment and workers constructed the new roads.

Approximately 18.6 square meters (200 sq. ft.) of wetland 1 (just east of Whippoorwill Lane in the southern portion of the corridor) would be potentially impacted by Old Agency Road Relocated along the wetland's southern border. Long-term impacts would be considered negligible because of the limited area that would be permanently occupied by road fill.

The new parkway motor road and Old Agency Road Relocated would cut through wetlands 4 and 6, which are interconnected, in two areas, resulting in the long-term loss of approximately 0.4 hectare (1.1 ac.) of palustrine forested and shrub/scrub wetlands in the central and southern portions of the study area. The development of both roads would sever the wetland area into four or five separate areas and reduce the combined wetland area by 40%, resulting in a major adverse impact. Although the local hydrology could be maintained through the use of culverts, the loss and fragmentation of these wetland plant communities would impair their integrity. Removing Old Agency Road near the Windrush subdivision could improve the connectivity and health of the wetland; however, this gain would be negated by the development of the parkway motor road adjacent to the Old Agency Road restoration area.

Long-term adverse impacts to wetland 8 (which is southwest of Brame Road) would occur because the parkway motor road, the realigned Old Agency Road, and an access road from the realigned Old

Agency Road to Brame Road would intersect and directly occupy this wetland in at least two locations. Approximately 0.2 hectare (0.4 ac.) of this palustrine wetland would be permanently filled, resulting in a 38% loss of the wetland and further fragmentation of wetland plant communities. Removing and revegetating portions of Brame Road and the access road to the Greenwood Plantation would eliminate current barriers between portions of wetlands 8 and 9, but the new roads would most likely minimize any beneficial effects.

In wetland areas 5 and 7 the removal of road surfaces, road fill, shoulders, and culverts could enhance the integrity and connectivity of wetland areas. Where roads were removed, disturbed areas outside the stream channels would be restored to the original contours and revegetated with native species. Stream channels could be returned to their natural state, and the local hydrology could be maintained or restored if necessary. Such restoration activities could result in minor to moderate beneficial impacts to the wetland systems.

Based on the NPS wetland protection guidelines *(DO-69: Wetland Protection)*, a statement of findings would be required to implement this alternative because wetland impacts would be permanent and would be more than 0.1 acre. Suitable wetland restoration areas would need to be identified to provide a 1:1 replacement of the 0.6 hectare (1.5 ac.) of wetland permanently lost to new road construction.

Cumulative Impacts. A section of the parkway motor road adjacent to the project study area on the west would have to be constructed to join the parkway motor road to the remainder of the Natchez Trace Parkway. If this section was completed, an additional 0.6 hectare (1.5 ac.) of wetlands would be permanently filled as a result of parkway construction. The additive effect of the wetland impacts related to alternative 1 and this remaining section to the west would be the long-term loss of 1.2 hectares (3.0 ac.) of wetlands, a major adverse impact in this area.

The development of the multi-use trail in the project area could also result in the additional loss of wetland acreage within and adjacent to the project study area.

Conclusion. Approximately 0.6 hectare (1.5 ac.) of wetlands would be permanently filled to construct new roads. Negligible adverse impacts would occur to wetland area 1. Long-term major adverse impacts would occur in wetland areas 4, 6, and 8; each wetland area would be reduced in size approximately 35% to 40%, and the remaining sections would be fragmented. No adverse impacts would occur to the remaining wetland areas (2, 3, 5, 7, 9, and 10). The removal of roads could provide opportunities to improve wetland systems in areas 5 and 7.

The development of the remaining sections of the parkway motor road to the west of the study area would result in an additional loss of 0.6 hectare (1.5 ac.) and a cumulative wetland impact of 1.2 hectares (3.0 ac.).

Water Quality

Analysis. The small, unnamed tributaries of White Oak Creek and Purple Creek are generally associated with the wetland system described in the "Affected Environment." Because of this association, potential impacts to water quality from construction of the parkway motor road and Old Agency Road Relocated would occur in the same areas as described under "Wetland" impacts.

Constructing the parkway motor road and Old Agency Road Relocated would cause short-term, negligible adverse impacts on the water quality of streams. Soil and other debris could be inadvertently discharged into streams, and streams would have to be temporarily diverted. However, mitigating actions that would reduce short-term effects would include implementing a soil erosion control plan, the use of special construction techniques, and devices such as culverts to ensure that streams continued to flow unimpaired in their current locations. Other examples of preventive measures are described beginning on page 26.

Vehicles discharge oils, fuels, and other petroleum products that can be washed into nearby streams and degrade water quality. The level of impact that vehicles can cause is directly related to the number of vehicles that travel the road daily. The Federal Highway Administration has researched methods for assessing and mitigating highway pollution runoff. The conclusion of this research is that highways traveled by fewer than 30,000 vehicles per day cause minimal effects on water resources (NPS 1998). Anticipated traffic volumes on the Natchez Trace Parkway and Old Agency Road Relocated would be less than 30,000 vehicles per day in all alternatives. Therefore, water quality impacts caused by vehicle-contaminated runoff would be long-term, but negligible.

Long-term and minor impacts on the surface-water drainage patterns in the project area would occur under all alternatives because of road construction and excavation for the parkway motor road, Old Agency Road Relocated, and some new access roads. Water runoff from road surfaces, embankments, and other parkway elements would be directed through culverts and other water drainage structures. The local surface-water drainage patterns would not change, although peak flow and volume of these small streams receiving stormwater discharge could increase. The restoration of all or portions of Old Agency Road and of access roads within the study area would allow for the enhancement or reestablishment of historic drainage patterns that could have been altered by these roads.

Cumulative Impacts. No cumulative impacts were identified.

Conclusion. Short-term and negligible adverse impacts would occur to water quality caused by construction activity releasing soil and debris into unnamed streams. Anticipated traffic volumes on the Natchez Trace Parkway and Old Agency Road Relocated would be less than 30,000 vehicles per day; therefore, water quality impacts caused by vehicle-contaminated runoff would be long-term, but negligible. Stormwater discharged into local streams could result in long-term, minor impacts from increased peak flows. The restoration of removed and relocated roads could benefit local hydrologic and drainage patterns.

Vegetation

Analysis. Constructing the parkway motor road, a bridge, and Old Agency Road Relocated would result in the clearing of vegetation, the loss of mature trees, and the loss of understory. Portions of the roadways would be located in previously undeveloped areas. Old Agency Road (from near Whippoorwill Lane to Richardson Road to) and portions of Brame Road and the Greenwood Plantation access drive within the project area would be removed. Old Agency Road would be restored to the appearance of the Old Natchez Trace, including a grass surface that would be kept mowed. The other removed roadways would eventually be revegetated with native vegetation and allowed to return to their natural state, replacing some of the vegetation lost to past and proposed road construction. Other actions that would be taken to minimize the amount of vegetation lost include avoidance of excessive vegetation clearing and the implementation of various erosion prevention measures

Four types of upland communities were identified within the parkway project area (NPS 1999), mixed-hardwood forest, pine/oak forest, late successional fields, and agricultural fields (agricultural fields is a descriptive term, and is not indicative of current agricultural use). Table 11 indicates the impacts by vegetation type. While individually these impacts would most likely be minor to moderate, collectively the loss of over 8.3 hectares of vegetation would be moderate to major because it would be permanent, highly noticeable, and substantial within the boundaries of the project area.

TABLE 11: VEGETATION IMPACTS, ALTERNATIVE 1

Vegetation Type	Vegetation Loss for New Roads	Revegetation Old Agency Road	Revegetation Other Roads	Net Loss
Mixed Hardwood	0.8 ha (2.0 ac.)	*0.0*	*0.0*	0.8 ha (2.0 ac.)
Pine/Oak	3.7 ha (9.1 ac.)	*0.1 ha (0.3 ac.)*	*0.4 ha (0.9 ac.)*	3.2 ha (7.9 ac.)
Late Successional Fields	4.2 ha (10.2 ac.)	*1.5 ha (3.6 ac.)*	*0.1 ha (0.2 ac.)*	2.6 ha (6.4 ac.)
Agricultural Fields	1.8 ha (4.5 ac.)	*0.0*	*0.1 ha (0.2 ac.)*	1.7 ha (4.3 ac.)
Net Total	**10.5 ha (25.8 ac.)**	***1.6 ha (3.9 ac.)***	***0.6 ha (1.3 ac.)***	**8.3 ha (20.6 ac.)**

Note: italicized numbers represent areas restored or replanted with native vegetation.

Mixed-Hardwood Forest — Mixed-hardwood forest communities are adjacent to the palustrine forested wetlands in the western part of the parkway motor road corridor. This hardwood forest would be adversely impacted by the parkway motor road alignment to the north. Approximately 0.8 hectare (2.0 ac.) of hardwood forest would be permanently lost, resulting in a long-term minor impact. Short-term effects would also occur during construction, including the loss of some tree canopy and other understory vegetation.

Pine/Oak Forest — This type of upland forest community occurs in the central portion of the parkway motor road corridor to the west of Brame Road. The construction of the parkway motor road and Old Agency Road Relocated with widths of roughly 30.5 m (100 ft.) would have long-term, major adverse impacts on this vegetative type due to the clearing and removal of trees. A total of 3.7 hectares (9.1 ac.) of pine/oak forest would be cleared under this alternative. However, plans to remove and revegetate with native species approximately 0.5 hectare (1.2 ac.) of Brame Road and the current access road to Greenwood Plantation would result in a net loss of 3.2 hectares (7.9 ac.).

Late Successional Fields — This vegetative type is generally encountered in the central part of the parkway motor road corridor. These fields, similar to the pine/oak forest, would be traversed by the parkway motor road and Old Agency Road Relocated. Long-term, adverse impacts to this type of plant community would occur as a result of clearing and removing herbaceous cover during construction. Late successional field impacts would total roughly 4.2 hectares (10.2 ac.). However, approximately 0.1 hectare (0.2 ac.) of existing roadway in these fields would be removed and revegetated, and approximately 1.5 hectares (3.6 ac.) of Old Agency Road would be restored to a grass surface. The net loss of these fields is approximately 2.6 hectares (6.4 ac.), a minor to moderate effect.

Agricultural Fields — Agricultural fields are restricted to the east end of the parkway corridor, which includes the Choctaw Agency site. The land was generally used as pasture as recently as a year ago. These fields would be traversed by the new parkway motor road and portions of Old Agency Road Relocated, resulting in the loss of approximately 1.8 hectares (4.5 ac.) of field. Removing and revegetating the existing roadway would reduce the total impact to 1.7 hectares (4.3 ac.). Impacts to these fields would be minor to moderate, as road construction activities would remove additional fields from agricultural uses, such as pasture; however, there is no lack of such fields in the region.

Cumulative Impacts. A multi-use trail, which is part of the *Natchez Trace Comprehensive Trail Plan*, has been approved for future construction within the parkway corridor. Impacts to the vegetation community along section 3P13 of the Natchez Trace Parkway would total approximately 0.4 hectare (1.1 ac.). This estimate is based on a trail width of 2.4 meters (8 ft.), including an additional 0.6 meter (2 ft.) of clearing on either side of the rail. Minor vegetation impacts would result from clearing during trail construction; however, vegetation along the corridor would eventually reestablish itself. Other impacts could include trail users creating noise, generating trash, and providing access to other areas, affecting additional vegetation resources.

Other Natchez Trace Parkway projects to the east and west of section 3P13 have impacted and will continue to impact vegetation communities along the length of the parkway. Although impacts to vegetation communities would be negligible to minor on a more regional scale, the degree of the impact could increase when large amounts of vegetation were removed in a local area.

Each of these vegetation types is common in the Jackson area. The cumulative vegetation impacts of this project, the multi-use trail, and other adjoining parkway projects (such as section 3P3 to the east) would probably be negligible on a local or regional scale.

Conclusion. Developing new roads would result in the loss of approximately 10.5 hectares (25.8 ac.) of vegetation during construction. Removing some existing roads, such as portions of Old Agency Road, Brame Road, and the Greenwood Plantation access drive would allow for the restoration or revegetation of approximately 2.2 hectares (5.2 ac.). The long-term impact would be moderate to major within the project area, with a net loss of 8.3 hectares (20.6 ac.) of vegetation. Constructing a multi-use trail within the parkway motor road and other parkway projects east and west of the project area would cause a permanent cumulative loss of vegetation in the local area. Each vegetation type is common in the Jackson area; while each type could be affected within the project area, the impact would be negligible in the local/regional context.

Wildlife

Analysis. In 1993 field reviews were conducted for an environmental assessment for the extension of several water utilities across the parkway. These surveys identified several of the more common wildlife species occurring within the parkway corridor (see "Wildlife" in the "Affected Environment"). Table 4 shows numerous other wildlife species that are believed to occur within and adjacent to the project area. None of the species identified is listed by Mississippi or the U.S. Fish and Wildlife Service as endangered, threatened, or of special concern.

Impacts to wildlife habitat would occur along the parkway motor road corridor on both a short-term and long-term basis. Short-term adverse impacts would include the degradation of habitat during construction from noise, temporary vegetation impacts, and increased human and mechanical activity. Long-term impacts would include the permanent loss of habitat related to vegetation loss and the location of wildlife populations adjacent to new roads with high-speed traffic. Habitat loss is directly associated with vegetation loss; as described for vegetation impacts, there would be a long-term loss of 8.3 hectares (20.6 ac.) of habitat. Additionally, the alignment of the proposed new parkway motor road and Old Agency Road Relocated could fragment and isolate some existing woodland habitat. The degree of impact would be considered minor, since size and quality of available habitat would not be permanently or adversely affected from a regional perspective. Those wildlife species not listed as threatened, endangered, or of special concern would most likely continue to be abundant in other areas of the state, and decreases in populations related to the project are not expected. Therefore, the short- and long-term wildlife impacts would be considered minor.

The National Park Service would examine the feasibility of revegetating existing roadways that would be removed under this alternative (Brame Road and the Greenwood Plantation access drive), including efforts to improve conditions for wildlife and compensate for project-related impacts on wildlife habitat. Under this approach, NPS staff would inventory and evaluate open fields along the proposed motor road route and Old Agency Road Relocated. Those with minimal or limited potential for retention as part of the agrarian scene by lessee farmers would be considered for revegetation to help mitigate wildlife habitat disturbed by construction. Other mitigation techniques would need to address how to divert wildlife from the newly constructed roadways and minimize fragmentation and isolation caused by the presence of the new roadways proposed in this alternative.

Cumulative Impacts. As noted in the vegetation impacts, a new multi-use trail would result in the loss of approximately 0.4 hectare (1.1 ac.) of additional vegetation within the parkway motor road corridor. Other parkway projects adjacent to this segment could result in the loss of additional vegetation. These vegetation losses, in addition to losses projected under this alternative, could result in some minor local losses of wildlife habitat. The parkway motor road corridor would not only remove vegetation that provides cover for some species, but would potentially fragment existing wildlife habitat as a result of roadways bisecting currently undeveloped property.

Conclusion. Wildlife impacts in the project area would be minor because regional wildlife populations would not be expected to decrease as a result of losing 8.3 hectares (20.6 ac.) of habitat. Ongoing development of adjacent parkway segments and a multi-use trail could cause minor cumulative effects to some wildlife species because of habitat loss and fragmentation.

Threatened or Endangered Species, or Species of Special Concern

Analysis. None of the plant species identified as Mississippi plant species of special concern are found in the project area. Additionally, as noted in the "Affected Environment," the U.S. Fish and Wildlife Service indicated that no federally listed plant or wildlife species occur in the project area. Thus, impacts to only state-listed wildlife species are considered in the following discussion.

Wildlife species of special concern in Mississippi are listed in the "Affected Environment" (see page 48). These species were identified as having the potential to occur or to be impacted within the project area (Mississippi Department of Wildlife, Fisheries and Parks 1991). Field surveys indicate that the remaining state-listed species identified in the "Affected Environment" would not occur within the project area because their habitats were either not supported or their occurrence was considered unlikely.

Table 12 lists the species that would potentially be affected by short- and long-term impacts related to diminished habitat during construction, when vegetation would be cleared, and during post-construction, when permanent vegetation loss would result and moderate-speed roadways had been completed. For all state-listed species of concern the impacts were found to be either minor (that is, the amount of habitat impacted would not be great enough to substantially decrease a species' population) or negligible (habitat is not present) for species that do occur or could potentially occur within the parkway motor road corridor.

To alleviate short- and long-term impacts to the parkway motor road corridor, mitigation would include the preservation or replacement of vegetation that is important species' habitat. In addition to protecting vegetation as a mitigation technique, sensitive resources identified within the parkway motor road corridor would be regularly patrolled by NPS personnel.

Cumulative Impacts. No cumulative effects would occur because of the lack of habitat for special status species.

TABLE 12: SPECIAL STATUS SPECIES IMPACTED BY ALTERNATIVE 1

Common Name	Scientific Name	Description	Impact Intensity
Red-shouldered hawk Cooper's hawk	*Buteo Lineatus* *Accipiter cooperi*	Neither is expected to decline significantly due to the completion of the parkway.	Negligible
Black vulture Turkey vulture	*Coragyps atratus* *Cathartes aura*	It is probable that both species would feed along the completed parkway.	Negligible
American kestrel	*Falco sparverius*	None sighted, but certainly present. This falcon should find habitat along the parkway after its completion.	Minor
Common barn owl	*Tyto Alba*	Could be impacted if portions of the project area reverted to forest habitat; however the population should remain stable following construction.	Minor
Bewick's wren	*Thryomanes bewickii*	None sighted, but could occur due to good conditions for habitat.	Negligible
Loggerhead shrike	*Lanius Ludovicianus*	This species almost certainly breeds on this section of land and would be a year-round resident.	Minor
Hoary bat	*Lasiurus Cinereus*	The hoary bat most likely occurs throughout the state as a migrant.	Negligible
Mole kingsnake	*Lampropeltis Calligaster Rhombomaculata*	The kingsnake occurs in the area, but no special management technique would be necessary to ensure its survival.	Negligible

Conclusion. No federally listed species are found within the project areas. The potential loss of habitat would have negligible to minor effects on Mississippi species of special concern. Mitigation techniques would be employed to maintain habitat where important.

Socioeconomic Environment

Land Use

Analysis. *Consistency with Local Comprehensive Plans* — Under alternative 1 the land use designations in Ridgeland's *Year 2020 Comprehensive Plan* would not be affected. Access to and from the various land uses identified in the plan, such as low-density residential, residential estate, and public / quasi public, would remain under this alternative.

Alternative 1 is consistent with the *Comprehensive Plan's* map, which shows the Natchez Trace Parkway extending from I-55 west to the vicinity of Whippoorwill Lane. Highland Colony Parkway is shown as a major arterial in the *Comprehensive Plan*, which would be unaffected by the actions in alternative 1.

The lack of access and parking at the Choctaw Agency site would be incongruent with the cultural and historic goals and policies in the *Comprehensive Plan*.

Consistency with the Local Transportation Plans — Alternative 1 is consistent with the proposals in the *Jackson Metropolitan Area Transportation Plan for the Year 2020*. The plan calls for the relocation of Old Agency Road and also includes the completion of the Natchez Trace Parkway. The plan would not be affected by, nor would it affect, the actions in alternative 1. It also calls for the relocation of the Old Agency Road in the next 5 to 10 years.

Planned Developments — Alternative 1 would not have direct impacts on the planned unit residential development at Brame Road and Highland Colony Parkway. The main access for the planned development would be by way of Highland Colony Parkway to the south, not Natchez Trace Parkway. Increased traffic on Brame Road could occur. Plans for an elderly care center near the entrance to the

Dinsmor subdivision would not be affected. Access to the Dinsmor subdivision and Greenwood Plantation from Old Agency Road Relocated would be provided in this alternative.

Cumulative Impacts. No cumulative impacts would result from the implementation of this alternative.

Conclusion. This alternative would have beneficial impacts because of its consistency with the local *Comprehensive Plan* and *Transportation Plan*. However, lack of access to the Choctaw Agency site would be inconsistent with local cultural and historic goals and policies.

Visual Resources

Analysis. Under alternative 1 the following actions could affect visual resources: the construction of the parkway motor road, Old Agency Road Relocated, and a parkway bridge over Old Agency Road Relocated; plus the closure and restoration of Old Agency Road to Old Trace appearances from near Whippoorwill Lane to Richardson Road.

The primary issues defining existing visual resources include effects that these actions could have on the gently rolling topography and the hardwood and pine/oak forested areas. The overhead tree canopy and the intimate scale and visual character of both the wooded areas and contrasting open agricultural fields in particular could be affected. In addition, the parkway (including the bridge) and Old Agency Road Relocated could be visible from adjacent areas (present views are wooded landscape).

Densely Wooded Areas — There would be a long-term, major adverse impact on densely wooded areas (mixed-hardwood and pine/oak forest) in the western and central portions of the corridor due to the clearing of existing mature trees for parkway construction, the parkway bridge, and Old Agency Road Relocated. This clearing would interrupt the continuity of the wooded areas and the overhead tree canopy by creating a large, open swath through them, infringing on the visual character of the area. There would be a total net loss of approximately 4.0 hectares (9.9 ac.) of densely wooded area for the parkway and Old Agency Road Relocated. Efforts would be made during construction to avoid excessive clearing, and some construction areas where trees were removed would be revegetated.

Open Fields — There would be a long-term, major impact to intermingled open fields (agricultural and late successional fields) within the central and eastern portions of the parkway corridor due to the construction of the parkway and Old Agency Road Relocated. Open fields provide an important visual contrast to densely wooded areas, and their contrasting small scale would be permanently changed. There would be a net total loss of approximately 4.3 hectares (10.7 ac.) of open fields.

Views of the Parkway — The vegetative clearing required for construction would open views of the parkway and a portion of Old Agency Road Relocated from adjacent residential subdivisions on the north (seven residences in the Windrush subdivision, and four residences in the Canterbury subdivision). On the south Old Agency Road Relocated would be seen from nine residences in the Dinsmor subdivision and from Greenwood Plantation. Revegetation of disturbed areas would partially screen most views from these areas. These would be short-term, moderate visual impacts.

The parkway bridge over Old Agency Road Relocated would be sited in an open field near Brame Road. Views of the bridge would intrude into the viewshed of the adjacent St. Andrew's School (entry from Old Agency Road). Revegetation would be inconsistent with the open field character of the area, and it would not be possible to screen views of the bridge in this location. This would be a long-term, moderate impact.

Visual Experience — The visual experience for drivers on the parkway and Old Agency Road Relocated would be changed. Current views consist of historic and cultural sites, glimpses through dense woods to open fields, and the contrast of shaded and open sunlit areas that are experienced from narrow, two-lane, tree-canopied roads. Closing and restoring Old Agency Road, along with modifying Brame Road and the Greenwood Plantation access drive, would substantially change the visual experience for users. These would be long-term, major impacts.

The continuity of the visual experience along the length of the parkway would be enhanced with the completion of this segment. Specifically, there would be visual continuity because the design, materials, and details would be the same as other segments of the parkway. These would be long-term, major benefits.

Cumulative Impacts. A multi-use trail has been approved for future construction within the parkway corridor. Trail construction would have a negligible impact on the existing visual character of the area.

Conclusion. Actions under alternative 1 would lead to long-term, major adverse visual impacts because of clearing mature trees in densely wooded areas and changing the visual experiences of users of local roads. New views of the parkway and Old Agency Road Relocated (including the bridge and earth fill embankments) from adjacent residential subdivisions, St. Andrew's School, and Greenwood Plantation would be short-term, moderate impacts pending the revegetation of disturbed areas. The completion of this segment of the parkway and consistent designs and uses of materials and details along the parkway would improve the continuity of the viewer experience, a long-term, major benefit.

Recreational Users and Facilities

Analysis. Completing this 1.8 kilometer (1.1 mi.) section of the parkway motor road would improve the continuity of the Natchez Trace Parkway, significantly enhancing the recreational driving experience for parkway travelers. This would provide a permanent long-term, major beneficial impact by fulfilling the 1938 legislative mandate for this unit of the national park system.

Under alternative 1 no access to the Choctaw Agency site would be provided from the parkway or other local roads, and no parking would be provided. This would make it difficult to offer interpretive programs at the site. This would result in a long-term, minor adverse impact.

Cumulative Impacts. A paved multi-use recreational trail (approximately 1.9 kilometers [1.2 mi.] in this section) would be designed to accommodate nonmotorized recreational use and to minimize conflicts between trail users and vehicular traffic on adjacent roadways. The trail could potentially connect to other trails in the area, providing local residents and parkway travelers additional opportunities for recreational activities, such as hiking and bicycling. The construction of the multi-use recreational trail would be a long-term, moderate beneficial impact.

Conclusion. Completing this section of the parkway motor road would improve the continuity of the recreational driving experience on the Natchez Trace Parkway, as envisioned by the 1938 enabling legislation. This would be a long-term, major beneficial impact. Not providing access to or parking at the Choctaw Agency site would make it difficult to offer interpretive or educational programs on site; this would be a long-term, minor adverse impact. A multi-use trail would provide additional recreational opportunities for local residents as well as parkway users, a long-term, moderate beneficial impact.

Local Residents

Analysis. Under alternative 1 the following actions could affect local residents: the construction of the parkway motor road, Old Agency Road Relocated, and a parkway bridge over Old Agency Road Relocated; and the closure and restoration of Old Agency Road to Old Trace standards from near Whippoorwill Lane to Richardson Road.

The primary concerns for local residents relate to impacts on the rural character and residents' feelings of living away from developed urban areas, including privacy, seclusion, and minimal traffic congestion. Other impacts relate to convenient access to regional recreational facilities and access to local attractions, including high-quality schools in the area.

Rural Character — The rural and secluded character so desired by local residents could be impacted by clearing mature trees and understory vegetation to construct both the parkway and Old Agency Road Relocated. This clearing and the proximity of Old Agency Road Relocated to the northern edge of the Dinsmor subdivision would directly affect about 12 homes and the character of the entry to the subdivision for all residents. Some areas where existing vegetation would be removed for construction would be revegetated. Excessive clearing would be limited. This loss of mature vegetation would be a short-term, moderate loss of seclusion and privacy.

Restoring the closed Old Agency Road would mitigate some vegetation loss in the area and would increase the privacy and seclusion for seven residences in the Windrush subdivision along the northern edge of the parkway corridor.

The design standards for the parkway and Old Agency Road Relocated would introduce higher speed urban roadways (and a bridge) with wide cleared areas that would be a major change from the existing narrow, low-speed, tree-canopied roads in the area. Over time additional residential developments would be built, especially to the west, and travel volumes would increase, particularly on Old Agency Road Relocated. Higher speed, through-traffic would use Old Agency Road Relocated to access I-55 (via existing Old Agency Road) and urbanized areas to the east. The new roadways and the parkway bridge would have a short-term, moderate impact on the present rural character of the corridor.

Community Qualities — Single-family residential communities are being planned and developed to the north and west. Because this area is being planned for higher-priced communities, similar residential subdivisions will likely continue to be built in response to the regional market. High-quality schools in the area would continue to serve existing and future residential subdivisions. Thus, there would be no effect on community qualities under this alternative.

Accessibility — Some modification of present access routes to local attractions requiring travel across the parkway corridor would occur. For example, to travel from the Dinsmor subdivision to Richardson Road there would be approximately 1.2 kilometers (0.7 mi.) of out-of-direction travel. Access to Greenwood Plantation and uses along Brame Road to Richardson Road would require approximately 0.3 kilometer (0.2 mi.) of additional out-of-direction travel. The impact of this out-of-direction travel would be short-term and minor until users became accustomed to the travel differences. Access to regional attractions would not be affected.

Cumulative Impacts. A multi-use trail has been approved for future construction within the parkway corridor. The trail would potentially enhance the quality of life for local residents.

Conclusion. Impacts on local residents from the clearance of vegetation, the intrusion of urban standard roadways, and the proximity of roadways to established residential subdivisions would be short term and moderate. The amount of out-of-direction travel for local access would be a short-term, minor impact until local travelers became accustomed to the differences. There would be no impact on local accessibility to regional destinations via I-55 with direct connection by way of the Old Agency Road interchange. A multi-use trail would potentially improve the quality of life for local residents.

Noise

Analysis. The removal and restoration of Old Agency Road (west of Richardson Road) would displace some current traffic noise from the Windrush subdivision to Old Agency Road Relocated in the southern portion of the project area, particularly near the Dinsmor subdivision. However, the noise levels that would result from the parkway motor road would increase noise throughout the study area and in all adjacent subdivisions, thus minimizing potential noise decreases related to road removals (see table 13). This would occur because of the proximity of Old Agency Road, Old Agency Road Relocated, and the parkway motor road to residential areas and local sites, and because of the consistent background noise that would be generated along the parkway during peak traffic volumes.

TABLE 13: PROJECTED NOISE LEVELS, ALTERNATIVE 1

Residential Area or Site	Noise Abatement Criteria (Leq)	Existing Conditions (dB(A))	2003 Projection (dB(A))	2020 Projection (dB(A))
East Windrush	67	47	49	53
West Windrush	67	41	48	52
East Dinsmor	67	42	51	55
West Dinsmor	67	44	50	54
Brame Road	67	37	45	49
Canterbury	67	51	53	55
Greenwood Plantation	67	36	44	47
Choctaw Agency Site	67	53	58	61

Negligible to minor increases in noise levels would occur in the short term (2–9dB(A)); minor to moderate increases would occur in the long term (4–13 dB(A)). The smallest increases would occur in vicinity of the Choctaw Agency site, the Canterbury subdivision, and east Windrush because of the high volume of traffic noise that currently occurs in these areas. The largest increases would be in the Dinsmor and west Windrush subdivisions, along Brame Road, and at Greenwood Plantation because of the proximity of both the parkway motor road and Old Agency Road Relocated. By 2020 increased traffic volumes on these two roads would result in moderate adverse impacts because of a potential 10–13 dB(A) increase in noise levels. This would be perceived as approximately double the existing noise levels. Although these increases would be long term, they would not exceed state noise guidelines (a 15 dB(A) increase). Similarly, the highest noise level of 61dB(A) at the Choctaw Agency site would be below FHWA noise abatement criteria for residential and park areas (67 dB(A)).

The construction of the parkway motor road, Old Agency Road Relocated, and connections to Brame Road and Greenwood Plantation would result in adverse short-term and minor noise impacts related to heavy equipment near residences in the Dinsmor subdivision and along Brame Road. Restoring Old Agency Road and other access roads to more natural conditions would also cause similar impacts.

Generally, noise levels for construction vehicles with tires are 60 to 65 dB(A) at 100 feet or 40 to 45 dB(A) at 1,000 feet. Vehicles with tracks are approximately 10 dB(A) louder. Construction-related noise is exempt from the Ridgeland noise ordinance between 6 A.M. and 6 P.M.

Cumulative Impacts. Parkway projects occurring in the vicinity of the Highland Colony Parkway and to the east of the study area could create additional short-term noise during construction activities. These construction activities, in combination with the use of Old Agency Road Relocated and the parkway motor road, could cause increased noise levels both in the short and long term for residents on the eastern end of the study area. Construction activities on the western end of the project area would cause similar noise impacts for residents of the Dinsmor and Windrush subdivisions.

Conclusion. Noise levels would increase at all sites and residential areas in the vicinity of the parkway motor road, Old Agency Road, and Old Agency Road Relocated. These increases would be negligible to minor in the short term and minor to moderate in the long term. By 2020 traffic volumes on Old Agency Road Relocated and the parkway motor road would result in a 10 to 13 dB(A) increase in noise levels, with the greatest increase in the Dinsmor subdivision. The highest noise level of 61 dB(A) would occur at the Choctaw Agency site. The maximum increase would not exceed the state guidelines, and all noise levels would be less than the FHWA noise abatement criteria for residential and park areas (67 dB(A)).

Unavoidable Adverse Effects

Alternative 1 would cause long-term, moderate adverse impacts to a 0.7 kilometer (0.4 mi.) portion of the Old Natchez Trace. The loss of the historic access to Greenwood Plantation (eligible for the National Register of Historic Places) would be an unavoidable adverse effect.

Approximately 0.6 hectare (1.5 ac.) of wetlands would be permanently filled to construct new roads. Long-term, major adverse impacts would occur in wetland areas 4, 6, and 8; each wetland area would be reduced in size approximately 35% to 40%, and the remaining sections would be fragmented. Actions under alternative 1 would lead to long-term adverse impacts on vegetation totaling approximately 8.3 hectares (20.6 ac.). This net vegetation loss accounts for vegetation removed as part of the alternative and vegetation that would be replaced as part of mitigation efforts.

Where the parkway motor road corridor traversed open fields and where the clearance of densely wooded areas was extensive, the adverse impacts to visual resources would be long term and major. Revegetating disturbed areas would screen some views of the parkway motor road, Old Agency Road Relocated, and the parkway bridge, resulting in short-term, moderate visual impacts from adjacent residential subdivisions.

Short-term, adverse impacts on local residents would result from the intrusion of the parkway motor road, Old Agency Road Relocated, and the parkway bridge into the rural and secluded setting. The scale of the roadways and bridge, and the higher speed movement of increasing traffic volumes near established residential subdivisions, would be short-term, moderate effects.

Relationship of Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

The effects of construction on the parkway's natural and cultural resources and visitor services would be primarily short term and of moderate impact. The effects of revegetation, which would begin immediately following construction, would be clearly visible for one to two years, and wildlife temporarily displaced by construction would be expected to reoccupy parkway lands near the new roadway once construction was complete.

There would be long-term impacts to a 0.7 kilometer (0.4 mi.) portion of the historic Old Natchez Trace and the historic access to Greenwood Plantation, which would be restored to Old Trace appearances. Following construction, the National Park Service would continue to manage parkway lands to preserve natural and cultural resources and to provide visitor experiences and services consistent with resource management needs.

There would be short-term traffic disruption during construction. However, the long-term gain would be the construction of the parkway motor road, allowing visitors direct access to cultural resources and continued enjoyment of the parkway motor road.

Short-term impacts related to proposed construction would also include a negligible increase in both employment opportunities for construction workers and in revenues generated by construction activities for local businesses and government. Over the long term, however, the proposed development would have a negligible impact on the region's socioeconomic environment.

Irreversible and Irretrievable Commitments of Resources

Irreversible commitments of resources are those that cannot be reversed, except perhaps in the extreme long term. This would include, for example, the consumption or destruction of nonrenewable resources, such as minerals and old-growth forests or the extinction of a species.

Irretrievable commitments of resources are those that are lost for a period of time, as a resource is devoted to a use that simultaneously precludes other uses. For example, if facilities are developed in a forest, the timber productivity of the developed land is lost for as long as the facilities remain.

Alternative 1 would cause irreversible impacts to a 0.7 kilometer (0.4 mi.) portion of the historic Old Natchez Trace. Patterns of historic circulation and use, along with character-defining attributes of the road corridor, would be lost. The parkway motor road and Old Agency Road Relocated would result in the removal of a large portion of the Greenwood Plantation access drive within the NPS right-of-way, irretrievably altering the historic approach to this historic property. The drive is a cultural landscape feature that contributes to the plantation's historical significance, and eliminating its traditional use would have a moderate adverse impact on the property's overall historical integrity.

Under alternative 1, 0.6 hectare (1.5 ac.) of wetlands would be permanently filled to construct new roads, and approximately 8.3 hectares (20.6 ac.) of vegetation would be lost. Wetland and vegetation losses would be considered irretrievable commitments of resources.

Alternative 1 would require minor amounts of fossil fuels, labor, and highway construction materials, such as aggregate and bituminous material. These resources are not in short supply, and their use would not have an adverse effect on the continued availability of these resources. Proposed construction would also result in an irreversible commitment or expenditure of funds.

IMPACTS OF ALTERNATIVE 2

Transportation/Traffic Impacts

Access

Analysis. Changes to the roadway configuration would create a major effect on access. While additional access would be provided to Highland Colony Parkway by way of the intersection at Old Agency Road Relocated, it would require out-of-direction travel for through-traffic and most local traffic. Short-term adverse impacts are expected as drivers adjusted to the new travel routes. The westbound travel time would be significantly increased for local residents of the Windrush and Canterbury subdivisions as well as the school, an adverse impact. These drivers would have to backtrack to Highland Colony Parkway to access the new intersection. Through-traffic would also be inconvenienced by the detour along Highland Colony Parkway to the new intersection. Additional signing would be required to direct through-traffic to the new intersection and not onto the remaining dead-end segment of Old Agency Road.

The Dinsmor subdivision, Greenwood Plantation, and Brame Road residences would have direct access to Old Agency Relocated, which might shorten the travel distance slightly and provide a more direct, convenient access. Access to St. Andrew's School and its athletic fields would remain with no changes. Additional travel time could be required to access the site.

No direct local access would be provided to the parkway motor road, in accordance with the legislation establishing the parkway. A benefit of this alternative would be the addition of access from the parkway motor road to the Choctaw Agency site.

Cumulative Impacts. As described for alternative 1, the parkway motor road would provide a potential alternate route for commuters who are already using the segment of the parkway motor road east of I-55. Ongoing improvements and additions to the parkway motor road both northeast and southwest of the project area would continue to improve interstate recreational travel.

Conclusion. Impacts to access would be major. Access for the westbound through-traffic and some local traffic would be relocated, causing adverse impacts on many travel routes. While some travel patterns would change, access would still be provided in all travel directions for each local road.

Volumes

Analysis. This alternative would be expected to have a moderate impact on traffic volumes. The majority of the traffic (approximately 7,000 vehicles per day) would remain on Old Agency Road to access the Windrush and Canterbury subdivisions by way of Richardson Road. The smaller volume of through-traffic and local traffic from Dinsmor, Greenwood Plantation, and Brame Road (approximately 3,000 vehicles per day) would shift from Old Agency Road to Old Agency Road Relocated. Volumes on both roads are estimated at levels within the threshold for collector roadways.

Volumes on the parkway motor road would be the same as alternative 1. Approximately 7,200 vehicles per day are expected to use the parkway on opening day. The extent of future volume increases would depend on the development of additional east-west commuter routes in the vicinity.

Cumulative Impacts. As described for alternative 1, traffic volumes on the new parkway motor road segment could increase if it was used by commuters. Proposed long-range improvements in the

Ridgeland *Transportation Plan Update* include constructing additional, more direct east-west corridors that would alleviate the use of the parkway motor road by commuter traffic.

Conclusion. Volume impacts would be moderate, as existing traffic would be split between Old Agency Road and Old Agency Road Relocated. Overall volumes would remain the same.

Safety

Analysis. Impacts to safety would be moderate. A reconfigured intersection at Richardson Road and Old Agency Road would reduce vehicular conflicts, improving safety. East of Richardson Road, Old Agency Road would remain unimproved, and existing safety issues would remain. Closing the intersections to Greenwood Plantation and Brame Road would improve safety issues related to sight distance and conflicting traffic movements. Old Agency Road Relocated would be constructed to AASHTO standards. The sight distance, grading, and cross-section would be improved, reducing the potential for accidents on this new road section.

Cumulative Impacts. As described for alternative 1, the construction of other east-west connector streets would potentially reduce commuter traffic on the parkway motor road and enhance safety.

Conclusion. Safety impacts would be moderately beneficial because of road improvements. While Old Agency Road east and west of the closed portion would remain unimproved, Old Agency Road Relocated would be constructed with improved sight distance, grading, and shoulder width. Existing intersections on Old Agency Road would be closed or modified to reduce potential vehicular conflicts.

Cultural Resource Impacts

Historic Sites

Analysis. As in alternative 1, a 0.7 kilometer (0.4 mi.) portion of Old Agency Road (Old Natchez Trace) would be closed to vehicular traffic and restored to Old Trace appearances. Truncating this section of the Old Natchez Trace would be considered a moderate adverse impact as a result of the physical disturbance associated with constructing the parkway motor road. The Old Natchez Trace segment would be restored to an appearance approximating what was likely typical of the Natchez Trace during its early 19th century period of significance.

Removing most of the Greenwood Plantation access drive within the NPS right-of-way would have a moderate adverse effect (similar to alternative 1). The drive is a contributing element of the plantation, and its closure and disturbance would irretrievably alter the historic approach to the property. Photo-documentation of the access drive would be a possible mitigation to provide an archival record of the drive's current character-defining attributes.

Increased traffic noise could be experienced at Greenwood Plantation as a consequence of vehicles traveling along Old Agency Road Relocated and the Natchez Trace Parkway (both would pass within approximately 305 meters [1,000 ft.] of the plantation).

Cumulative Impacts. As described for alternative 1, closing and removing a 0.7 kilometer (0.4 mi.) portion of Old Agency Road (Old Natchez Trace) would represent an incremental loss of designed structural features/materials, patterns of transportation use, and character-defining qualities of the road corridor. While sections of Old Agency Road would remain open outside the NPS right-of-way, the current experience motorists have as they drive along the extended road corridor would be substantially diminished.

Conclusion. As in alternative 1, this alternative would cause long-term, moderate adverse impacts to a 0.7 kilometer (0.4 mile) portion of the historic Old Natchez Trace. Patterns of historic circulation and use, along with character-defining attributes of the road corridor, would be lost. The removal of most of the Greenwood Plantation access drive would irretrievably alter the historic approach to this property.

Archeological Resources

Analysis. The access road and parking area would be sited to avoid impacts to archeological resources at the Choctaw Agency site. The National Park Service would ensure that adequate site security measures were implemented before interpretive site development and public programs were initiated. These measures could include park patrols, surveillance, fencing, and educational outreach programs. Providing direct access from the parkway motor road would allow the area to be more easily monitored, a moderate beneficial impact. However, it is possible that the access road would disturb the cultural setting of the area.

Cumulative Impacts. No cumulative impacts on archeological resources were identified.

Conclusion. The Choctaw Agency site would be avoided by construction disturbance. The park would undertake appropriate site protection measures to avoid or mitigate potential adverse effects related to public visitation before opening the site to interpretation.

Natural Resources

Air Quality

Analysis. Alternative 2 peak-hour traffic volumes for Old Agency Road between Richardson Road and Highland Colony Parkway are projected to be 788 vehicles in 2003 and 1,000 vehicles in 2020 (see table 14 below). Similar to alternative 1, alternative 2 was subjected to a graphical CO screening test. Based on these volumes and speeds of 40 kph (25 mph), the CO screen determined that the critical distance would be less than 3.1 meters (10 ft.) in both years 2003 and 2020. As described for alternative 1, the critical distance is the distance a receptor can be from a given roadway without experiencing any chance of a significant air quality impact. Air quality impacts would be negligible.

TABLE 14: AIR QUALITY DATA SUMMARY, ALTERNATIVE 2

Year	Average Speed	Design Hour Traffic Volumes	Critical Distance	Closest Receptor
2003	40 kph (25 mph)	788	<3.1 m (<10 ft.)	Approx. 30.5 m (100 ft.)
2020	40 kph (25 mph)	1,000	<3.1 m (<10 ft.)	Approx. 30.5 m (100 ft.)

Cumulative Impacts. Traffic volumes on other roadways throughout the study area would continue to increase as population increased. However, the cumulative effect of the combined traffic volumes would not be expected to exceed national ambient air quality standards for carbon monoxide.

Conclusion. Alternative 2 would have negligible impacts on air quality over the short and long term. Alternative 2 would not cause violations of the national ambient air quality standards for carbon monoxide. No mitigation measures would be required with this alternative.

Soils

Analysis. As described for alternative 1, mitigating measures would be taken for where road alignments crossed soils classified as silt loams that have low strength for streets and roads. Soil erosion would result from the clearing of some vegetation from the project area, exposing project soils to erosive water and wind action. Some soils could be enhanced and improved with the removal of roads and the restoration of vegetation. A soil erosion control plan would be prepared and implemented during the construction phase, as described in the "Mitigations for Special Resource Concerns" (see page 26).

Long-term and negligible effects on project area soils would include excavation, the mixing of soil horizons, and the addition of aggregate fill and road surface pavement over existing soils. The exact amount of soil that would be excavated is unknown; however, under this alternative a total of 11.5 hectares (28.4 ac.) of vegetation would be affected, which is indicative of the surface acreage of soils that would be impacted by construction.

Cumulative Impacts. No cumulative impacts were identified under this alternative.

Conclusion. Long-term, negligible impacts would occur to project area soils due to excavation. Mitigation efforts would be undertaken to prevent soil erosion and to address the expansive characteristics of local soils.

Wetlands

Analysis. A total of 0.7 hectare (1.7 ac.) of riverine and palustrine emergent, scrub/shrub, and forested wetlands would be filled as a result of constructing the parkway motor road and Old Agency Road Relocated. Table 15 identifies the potential adverse or beneficial impacts to wetland areas 1 through 10. Impacts would be the same as described for alternative 1 except for wetlands 8 and 9.

TABLE 15: WETLAND IMPACTS, ALTERNATIVE 2

Wetland No	Size of Wetlands Affected	Percentage of Wetland Area Affected	Impact Intensity and Direction
1	<0.01 ha (<0.01 ac.)	0.3	negligible adverse
2	0	0	no impact
3	0	0	no impact
4 and 6	0.4 ha (1.1 ac.)	40	major adverse
5	0	0	minor beneficial
7	0	0	minor beneficial
8	<0.1 ha (0.2 ac.)	15	moderate adverse
9	0.2 ha (0.4 ac.)	13	moderate adverse
10	0	0	no impact

Constructing Old Agency Road Relocated in the southern portion of the study area between Highland Colony Parkway and the Greenwood Plantation access road (rather than curving north as in alternative 1) would fill wetland areas 8 and 9, resulting in moderate adverse impacts. Less than 0.1 hectare (0.2 ac.) in the very western section of wetland area 8 would be lost, reducing the size of the wetland but not its connectivity. Removing the current access to Greenwood Plantation would provide opportunities to reduce the current fragmentation of the wetland. Approximately 0.2 hectare (0.4 ac.) of the far western end of wetland area 9 (a long, linear palustrine wetland) would be filled, also impacting its overall size, but most likely not its connectivity or integrity.

Based on the NPS wetland protection guidelines *(DO-69: Wetland Protection)*, a statement of findings would be required to implement this alternative. Suitable wetland restoration areas would need to be identified to provide a 1:1 functional replacement of wetlands permanently lost.

Cumulative Impacts. As described for alternative 1, additional wetland areas would be adversely impacted to the west of the project study area to complete the parkway motor road. An additional 0.6 hectare (1.5 ac.) of wetlands would be permanently filled. The additive effect of wetland impacts related to alternative 2 and this remaining section to the west would be the long-term loss of 1.3 hectares (3.2 ac.) of wetlands, a major adverse impact.

The construction of the multi-use trail in the project area could result in the additional loss of wetland acreage.

Conclusion. Approximately 0.7 hectare (1.7 ac.) of wetlands would be permanently filled to construct new roads. No adverse impacts would occur to wetland areas 2, 3, 5, 7, and 10. Negligible adverse impacts would occur to wetland area 1. Moderate long-term adverse impacts would occur to wetland areas 8 and 9 because of reduction in wetland size. Major long-term adverse impacts would occur in wetland areas 4 and 6, as each wetland area would be reduced in size approximately 35% to 40%, and the remaining wetland sections would be fragmented. Removing portions of Old Agency Road and other access roads could provide opportunities to improve wetland systems in areas 5 and 7.

Developing the remaining sections of the parkway motor road to the west of the study area would result in an additional loss of 0.6 hectare (1.5 ac.) and a cumulative wetland impact of 1.3 hectares (3.2 ac.).

Water Quality

Analysis. As described for alternative 1, potential impacts to water quality from construction of the parkway motor road and Old Agency Road Relocated would occur in the same areas as described under "Wetland" impacts. Construction would cause short-term, negligible adverse impacts on the water quality of the small, unnamed tributaries of White Oak Creek and Purple Creek.

Anticipated traffic volumes on the Natchez Trace Parkway and Old Agency Road Relocated would be less than 30,000 vehicles per day. Water quality impacts caused by highway runoff would be long-term, but negligible.

Water runoff from the road surfaces, embankments, and other parkway elements would be directed through culverts and other water drainage structures. The local surface-water drainage patterns would not change, although stormwater discharge could increase. The restoration of all or portions of Old Agency Road and of access roads within the study area would allow for the enhancement or possible reestablishment of historic drainage patterns.

Conclusion. As described for alternative 1, short-term and negligible adverse impacts would occur to water quality caused by construction activity releasing soil and debris into unnamed streams. Stormwater discharged into local streams could result in long-term, minor impacts from increased peak flows. The restoration of removed and relocated roads could benefit local hydrologic and drainage patterns.

Vegetation

Analysis. Vegetation impacts would vary slightly from alternative 1 because the alignment of Old Agency Road Relocated would stay south of the parkway motor road, no bridge would be provided along the parkway over Old Agency Road, and access would be provided to the Choctaw Agency site. Similar to alternative 1, Old Agency Road (west of Richardson Road) would be restored to Old Trace appearances by removing the asphalt, grading the area, and planting with turf grass that would be kept mowed. Also, Brame Road and the Greenwood Plantation access drive would be removed and revegetated. The other removed roadways would be replanted with native vegetation and allowed to return to their natural state, replacing some of the vegetation lost in the past.

Impacts by vegetation type are identified in table 16. While individually these impacts would be most likely minor to moderate, collectively the loss of 9.5 hectares (23.6 ac.) of vegetation would be moderate to major because it would be permanent, highly noticeable, and substantial within the boundaries of the project area.

TABLE 16: VEGETATION IMPACTS, ALTERNATIVE 2

	Vegetation Loss for	Revegetation		
Vegetation Type	New Roads	Old Agency Road	Other Roads	Net Loss
Mixed Hardwood	0.8 ha (2.0 ac.)	*0*	*0*	0.8 ha (2.0 ac.)
Pine Oak	3.2 ha (7.9 ac.)	*0.1 ha (0.3 ac.)*	*0.3 ha (0.7 ac.)*	2.8 ha (6.9 ac.)
Late Successional Fields	4.2 ha (10.2 ac.)	*1.5 ha (3.6 ac.)*	*0.1 ha (0.2 ac.)*	2.6 ha (6.4 ac.)
Agricultural Fields	3.3 ha (8.3 ac.)	*0*	*0*	3.3 ha (8.3 ac.)
Net Total	**11.5 ha (28.4 ac.)**	***1.6 ha (3.9 ac.)***	***0.4 ha (0.9 ac.)***	**9.5 ha (23.6 ac.)**

Note: italicized numbers represent areas restored or replanted with native vegetation.

Mixed-Hardwood Forest — Impacts would be the same as alternative 1, a net minor effect of 0.8 hectare (2.0 ac.).

Pine/Oak Forest — A net impact of approximately 2.8 hectares (6.9 ac.) of pine/oak forest would be lost under this alternative, which includes the access to be provided to the Choctaw Agency site.

Late Successional Field — Impacts would be the same as alternative 1, a net loss of 2.6 hectares (6.4 ac.) would occur.

Agricultural Fields — Long-term and short-term impacts to this vegetative type would be greater under this alternative than under alternative 1 due to the addition of access and a parking lot at the Choctaw Agency site. The total net loss of this vegetative type would be 3.3 hectares (8.3 ac.)

Cumulative Impacts. Cumulative impacts would be the same as those described for alternative 1. Additional vegetation losses would occur within the project area because of the multi-use trail and other parkway projects.

Conclusion. The development of new roads would result in the loss of approximately 11.5 hectares (28.4 ac.) of vegetation. The removal of some roads, including portions of Old Agency Road, Brame Road, and access roads into the Dinsmor subdivision and Greenwood Plantation, would allow the revegetation of approximately 2 hectares (4.8 ac.). The long-term impact would be moderate to major within the project area, with a net loss of 9.5 hectares (23.6 ac.) of vegetation. Compared to alternative 1, additional areas of pine/oak forest and agricultural field would be impacted, resulting in a higher net loss. The construction of a multi-use trail within the parkway motor road and other parkway projects to the east and west would cause permanent cumulative losses of vegetation in the local area.

Wildlife

Analysis. Loss of vegetation with this alternative could result in minor wildlife population decreases because of the potential loss of wildlife habitat. Other impacts relating to wildlife fragmentation and isolation due to new roadway development would be the same as alternative 1. Potential long-term losses of wildlife habitat would total 9.5 hectares (23.6 ac.).

Cumulative Impacts. Cumulative impacts would be the same as alternative 1. Vegetation losses associated with a new multi-use trail could result in some minor losses and fragmentation of wildlife habitat.

Conclusion. Vegetation losses would result in a long-term potential decrease of 9.5 hectares (23.6 ac.) of potential wildlife habitat and minor impacts on wildlife populations. Local parkway and trail projects could also result in additional long-term and cumulative losses of wildlife habitat.

Threatened or Endangered Species, or Species of Special Concern

Analysis. Only state-listed species of special concern are likely to be found in the project area, as described in alternative 1. Short-term and long-term impacts could result in diminished habitat during construction due to vegetation clearing, as well as post-construction when permanent vegetation loss results and moderate-speed roadways were complete. For all state-listed species of concern, the impacts were found to be either minor (the amount of habitat impacted would not be significant enough to substantially decrease species' population) or negligible (a specific habitat is not supported) for species that do occur or could potentially occur within the parkway motor road corridor.

Cumulative Impacts. No cumulative effects would occur because of the lack of significant habitat for special status species (the same as alternative 1).

Conclusion. No federally listed species are found within the project areas. Impacts to Mississippi species of special concern would be negligible to minor because of the potential loss of habitat.

Socioeconomic Environment

Land Use

Analysis. *Consistency with Local Comprehensive Plans* — Impacts would be the same as described for alternative 1. Alternative 2 is consistent with Ridgeland's *Year 2020 Comprehensive Plan* map, which shows the Natchez Trace Parkway extending from I-55 west to the vicinity of Whippoorwill Lane. Highland Colony Parkway is shown as a major arterial in the *Comprehensive Plan*, which would not be changed under alternative 2. Highland Colony Parkway would be affected, however, by a new intersection at Old Agency Road Relocated. Alternative 2 would complement the cultural and historic goals and policies in the *Comprehensive Plan* by providing access to the Choctaw Agency site from the parkway motor road. This differs from alternative 1, where no access would be provided to the site.

Consistency with the Local Long-Range Transportation Plan — The *Jackson Metropolitan Area Transportation Plan* for the year 2020 would not be impacted by the actions in alternative 2. The *Transportation Plan* calls for the relocation of Old Agency Road and also includes the completion of the Natchez Trace Parkway. Under alternative 2 retaining Old Agency Road in its current location between Richardson Road and Highland Colony Parkway and constructing Old Agency Road Relocated south of the parkway motor road would be consistent with the relocation of Old Agency Road and the completion of the Natchez Trace Parkway called for in the *Transportation Plan*. The transportation plan also calls for the relocation of the Old Agency Road in the next 5–10 years.

Planned Developments — Impacts would be the same as in alternative 1. Alternative 2 would not have direct impacts on the planned unit residential development at Brame Road and Highland Colony Parkway. Increased traffic on Brame Road from this development could occur. Plans for an elderly care center near the entrance to the Dinsmor subdivision would not be affected by this alternative.

Cumulative Impacts. No cumulative impacts would result from the implementation of this alternative.

Conclusion. This alternative would be beneficial because of its consistency with local plans. This alternative would complement the *Comprehensive Plan's* cultural and historic goals by providing access to the Choctaw Agency site from the parkway.

Visual Resources

Analysis. Actions in alternative 2 that could affect visual resources include the construction of the parkway motor road and Old Agency Road Relocated, plus the closure and restoration of Old Agency Road to Old Trace appearances from near Whippoorwill Lane to Richardson Road. Techniques for mitigating visual impacts would include preserving vegetation and natural landforms and the revegetation of areas disturbed by construction.

Densely Wooded Areas — There would be a long-term, major adverse impact to mixed-hardwood and pine/oak forests in the western and central portions of the corridor from clearing mature trees for the parkway and Old Agency Road Relocated. The impact of this clearing would be similar to that described in alternative 1, though slightly less because there would be no bridge in alternative 2. There would be a net loss of approximately 3.6 hectares (8.9 ac.) of densely wooded area.

Open Fields — Slightly more open fields (agricultural and late successional fields) would be affected than under alternative 1. As described for alternative 1, these open fields provide an important visual contrast to densely wooded areas, and they would be permanently lost.

Views of the Parkway — Vegetation clearing required for construction would affect views from adjacent residential subdivisions, similar to alternative 1. Revegetation of disturbed areas would screen some views. Because there would be no parkway bridge, views from St. Andrew's School (entry from Old Agency Road) would not be affected.

Visual Experience — As described for alternative 1, the current visual experience would be affected by constructing the parkway motor road and Old Agency Road Relocated and by closing portions of Old Agency Road, Brame Road, and the Greenwood Plantation access drive. Views along existing roads are characterized by the presence of historic and cultural sites, glimpses through dense woods to open fields, and the contrast of shaded and open sunlit areas; their loss would be a long-term, major impact. The continuity of the visual experience along the parkway would be enhanced with a consistent design and use of materials and details, constituting a long-term, major benefit.

Cumulative Impacts. A multi-use trail within the parkway corridor would have a negligible impact on visual resources.

Conclusion. Under alternative 2 there would be long-term, major adverse visual impacts, similar to alternative 1. These would result from clearing mature trees in densely wooded areas and changing the visual experience of users on local roads. Clearing in densely wooded areas and new views of the parkway and Old Agency Road Relocated from adjacent residential subdivisions, St. Andrew's School, and Greenwood Plantation would be short-term, moderate impacts pending the revegetation of disturbed areas. The completion of this section of the parkway would improve the continuity of the viewer experience, providing a long-term, major benefit.

Recreational Users and Facilities

Analysis. As described for alternative 1, completing this section of the parkway motor road would improve the continuity of the Natchez Trace Parkway, significantly enhancing the recreational driving experience for parkway travelers. This would fulfill the 1938 legislative mandate for completing the Natchez Trace Parkway and provide a long-term, major beneficial impact.

Under alternative 2 an access road would be provided from the parkway motor road to a visitor parking area adjacent to the Choctaw Agency site. This visitor access would make it easier to provide interpretive and educational programs at the site. Programs could be offered to local residents, as well as parkway users. This would result in a long-term, moderate beneficial impact.

Cumulative Impacts. As described for alternative 1, the construction of a multi-use recreational trail would accommodate nonmotorized recreational use and minimize conflicts between trail users and vehicular traffic on adjacent roadways. The trail could potentially connect with a network of other trails in the area, providing local residents as well as parkway travelers opportunities for additional recreational activities, such as hiking and bicycling. This would provide a long-term, moderate beneficial impact.

Conclusion. As described for alternative 1, completing this section of the Natchez Trace Parkway would improve the continuity of the recreational driving experience, a long-term, major beneficial impact. Under this alternative providing access to and parking at the Choctaw Agency site would make it easier to offer interpretive and educational programs, enhancing the experience of parkway users and local residents. This would be a long-term, moderate beneficial impact. The construction of a multi-use recreational trail would provide local residents as well as parkway users additional recreational opportunities, a long-term, moderate beneficial impact.

Local Residents

Analysis. Under alternative 2 the following actions could affect local residents: the construction of the parkway motor road and Old Agency Road Relocated, and the closure and restoration of Old Agency Road to Old Trace appearances between Whippoorwill Lane and Richardson Road. As a result, this alternative would have different impacts because there would be no parkway motor road bridge over Old Agency Road Relocated and no link between existing Old Agency Road and Old Agency Road Relocated for local travel across the parkway corridor.

Rural Character — Impacts would be the same as alternative 1, except that because there would be no parkway bridge over Old Agency Road Relocated, the impact of new urban roadway elements on the character in the Brame Road area and Greenwood Plantation would be reduced. The introduction of the parkway and Old Agency Road Relocated and their increased level of activity would be a short-term, moderate adverse impact.

Community Qualities — As described for alternative 1, there would be no effect on community qualities under this alternative.

Accessibility — Because Old Agency Road Relocated would not connect to existing Old Agency Road within the parkway corridor, existing routes that provide access to local activities across the corridor would have to be modified. For example, crossing from the Dinsmor subdivision to Richardson Road would require approximately 2.2 kilometers (1.4 mi.) of additional out-of-direction travel (requiring the use of Highland Colony Parkway). This would be a short-term, minor adverse effect until local users became accustomed to the travel difference.

Local access to regional attractions from I-55 would be affected because Old Agency Road Relocated would terminate at Highland Colony Parkway, without a direct connection to I-55 (requiring the use of Highland Colony Parkway to the Old Agency Road intersection). This break in direct access to I-55 would be a long-term, moderate effect on regional accessibility.

Cumulative Impacts. As described for alternative 1, the construction of a multi-use trail within the parkway corridor would potentially improve the quality of life for local residents.

Conclusion. As described for alternative 1, impacts on the rural setting from the clearance of vegetation, the intrusion of urban standard roadways, and the proximity of roadways to established residential subdivisions would be short term and moderate. Under alternative 2 long-term, moderate adverse impacts on local access to regional attractions would occur without direct access to I-55 from Old Agency Road Relocated. Increased out-of-direction travel for local access across the parkway corridor would be a short-term, minor impact. A multi-use recreational trail would potentially improve local residents' quality of life.

Noise

Analysis. Noise impacts would be the same as alternative 1 except at the Choctaw Agency site. Potential noise increases are presented in table 17. Similar to alternative 1, the predominant source of noise in the project area would the parkway motor road; therefore, noise levels in all adjacent residential areas and at the Choctaw Agency Site would increase compared to current conditions. Because Old Agency Road Relocated would be south of the Choctaw Agency site rather than adjacent to it, future noise levels at the site would be less than under alternative 1. Negligible to minor increases in noise levels would occur in the short term (2–9dB(A)); minor to moderate increases would occur in the long term (4–13 dB(A)). The smallest increases would occur in vicinity of the Choctaw Agency site, Canterbury subdivision, and east Windrush subdivision. The largest increases would occur in the Dinsmor and west Windrush subdivisions, along Brame Road, and at Greenwood Plantation because of the proximity of both the parkway motor road and Old Agency Road Relocated. The greatest increase in noise level (13 dB(A) at east Dinsmor) would not exceed state guidelines. Similarly, the

TABLE 17: PROJECTED NOISE LEVELS, ALTERNATIVE 2

Residential Area or Site	Noise Abatement Criteria (Leq)	Existing Conditions (dB(A))	2003 Projection (dB(A))	2020 Projection (dB(A))
East Windrush	67	47	49	53
West Windrush	67	41	48	52
East Dinsmor	67	42	51	55
West Dinsmor	67	44	50	54
Brame Road	67	37	46	49
Canterbury	67	51	53	55
Greenwood Plantation	67	36	44	47
Choctaw Agency Site	67	53	57	59

highest noise level of 59dB(A) at the Choctaw Agency site would be below FHWA noise abatement criteria for residential and park areas (67 dB(A)).

As described for alternative 1, construction noise would also occur in the short term, but is allowed during daytime hours (6 A.M. to 6 P.M.), according to city noise ordinances.

Cumulative Impacts. Cumulative impacts would be the same as alternative 1. Additional construction-related noise could occur due to construction projects.

Conclusion. Noise impacts would be the same as alternative 1. Noise levels would increase at all sites and residential areas in the vicinity of the parkway motor road, Old Agency Road, and Old Agency Road Relocated. These increases would be negligible to minor in the short term and minor to moderate in the long term. The maximum increase in long-term noise levels would be 13 dB(A) near the Dinsmor subdivision, and the highest noise level of 59 dB(A) would occur at the Choctaw Agency site in 2020. The maximum increase would not exceed the state guidelines, and all noise levels would be less than the FHWA noise abatement criteria for residential and park areas (67 dB(A)).

Unavoidable Adverse Effects

Impacts to access would be major. Access for the westbound through-traffic would be relocated.

As described for alternative 1, alternative 2 would cause long-term, moderate adverse impacts to the 0.7 kilometer (0.4 mi.) portion of Old Natchez Trace (Old Agency Road) that would be restored to historic Old Trace appearances. The loss of the historic access to Greenwood Plantation would be an unavoidable adverse effect.

Approximately 0.7 hectare (1.7 ac.) of wetlands would be permanently filled. Major long-term adverse impacts would occur in wetland areas 4 and 6, as each wetland area would be reduced in size approximately 35% to 40%, and the remaining wetland sections would be fragmented. Net vegetation losses under this alternative would total approximately 9.5 hectares (23.6 ac.).

Impacts on the rural setting from the clearance of vegetation, the intrusion of urban standard roadways, and their proximity to established residential subdivisions would be moderate and short term.

Relationship of Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

The effects of construction on the parkway's natural and cultural resources would be primarily short term and of moderate impact. The effects of revegetation, which would begin immediately following construction, would be clearly visible for one to two years, and wildlife temporarily displaced by construction would be expected to reoccupy parkway lands near the new roadway once construction was complete.

There would be long-term impacts to a 0.7 kilometer (0.4 mi.) portion of the historic Old Natchez Trace and the historic access to Greenwood Plantation as a result of closing these roads and restoring the former to Old Trace appearances and revegetating the latter. Following construction, the National Park Service would continue to manage parkway lands to preserve the natural and cultural resources and to provide visitor experiences and services consistent with resource management needs.

There would be short-term traffic disruption during construction. However, the long-term gain would be the construction of the parkway motor road, allowing visitors direct access to cultural resources and other opportunities.

As described for alternative 1, short-term impacts related to proposed construction would also include a negligible increase in both employment opportunities for construction workers and in the revenues generated by construction activities for local businesses and government. Over the long term, however, the proposed development would have a negligible impact on the region's socioeconomic environment.

Irreversible and Irretrievable Commitments of Resources

As described for alternative 1, this alternative would cause irreversible major adverse impacts to a 0.7 kilometer (0.4 mi.) portion of the historic Old Natchez Trace. Construction of the parkway motor road and Old Agency Road Relocated would result in the removal of a large portion of the Greenwood Plantation access drive within the NPS right-of-way, irretrievably altering the historic approach to this property.

Approximately 0.7 hectare (1.7 ac.) of wetlands would be permanently filled to construct new roads. Net vegetation losses under this alternative would total approximately 9.5 hectares (23.6 ac.). Vegetation and wetland losses would be considered irretrievable commitments of resources.

This alternative would require minor amounts of fossil fuels, labor, and highway construction materials, such as aggregate and bituminous material. These resources are not in short supply, and their use would not have an adverse effect on continued availability of these resources. The proposed construction would also result in an irreversible commitment or expenditure, of funds.

IMPACTS OF ALTERNATIVE 3

Transportation/Traffic Impacts

Access

Analysis. As described for alternative 2, changes to the roadway configuration would create a major impact to access. Traffic to and from the Windrush and Canterbury subdivisions and St. Andrew's

School, as well as through-traffic, would all be rerouted to the new intersection at Old Agency Road Relocated and Highland Colony Parkway. Substantial adverse, short-term impacts would be expected while drivers became accustomed to the new route. Over the long term travel time is expected to increase, and there could be additional delays. Traffic to and from the Dinsmor subdivision, Greenwood Plantation, and Brame Road residences would have direct access to Old Agency Road Relocated, which could shorten the travel distance slightly and provide more direct, convenient access. The secondary access for St. Andrew's School would be closed or possibly maintained as "deed reserved" access; primary access would be provided on Highland Colony Parkway. There would be a slight impact to drivers who formerly used the secondary access because they would have to travel a bit farther to access the site via Highland Colony Parkway. Access to the athletic fields would be provided via an extended driveway from Richardson Road. This would create a slight detour from the previous travel pattern for some drivers.

Like the other alternatives, no direct local access would be provided to the parkway motor road, in accordance with the legislation establishing the parkway. As described for alternative 2, a benefit of this alternative would be the addition of access from the parkway motor road to the Choctaw Agency site.

Cumulative Impacts. Ongoing improvements and additions to the parkway motor road both northeast and southwest of the project area would continue to improve interstate recreational travel.

Conclusion. Impacts to access would be major and adverse. Both travel patterns and access locations would change, causing a short-term inconvenience for drivers while they adjusted their travel patterns. Over the long-term, travel time would be increased due to the alignment of Old Agency Road Relocated and the closure of Old Agency Road within the parkway right-of-way.

Volumes

Analysis. This alternative would have a major effect on traffic volumes. Traffic associated with the Canterbury subdivision and the school could benefit from the closure of Old Agency Road and the elimination of traffic along the property boundaries. Traffic now using Old Agency Road (approximately 10,000 vehicles per day) would be completely shifted to Old Agency Road Relocated. Richardson Road would be extended, crossing under the parkway motor road; this extension would have to be designed as a collector road to accommodate higher volumes of traffic related to the Windrush and Canterbury subdivisions, approximately 7,000 vehicles per day.

Volumes on the parkway motor road would be the same as alternative 1. Approximately 7,200 vehicles per day are expected on the parkway on opening day. The extent of future volume increases would depend on the development of additional east-west commuter routes in the local vicinity.

Cumulative Impacts. As described for alternatives 1 and 2, traffic volumes on the new parkway motor road segment could increase if it was used by commuters. Proposed long-range improvements in the Ridgeland *Transportation Plan Update* include constructing additional, more direct east-west corridors that would alleviate the use of the parkway motor road by commuter traffic.

Conclusion. Volume impacts would be major as all traffic from Old Agency Road was shifted to Old Agency Road Relocated.

Safety

Impacts to safety would be major and positive. Closing Old Agency Road within the project area would alleviate a number of safety concerns identified by the Federal Highway Administration. The new road would be constructed to meet appropriate design standards; providing adequate sight distances, improved grade, and ample shoulder width should reduce the accident rate from existing conditions. Mitigating measures to improve safety should include designing the intersection of Richardson Road and Old Agency Road Relocated to provide adequate sight distances.

Cumulative Impacts. A potential reduction in commuter traffic on the parkway motor road once other east-west connector streets were constructed would enhance safety, the same as alternatives 1 and 2.

Conclusion. Safety would be improved with the closure and restoration of Old Agency Road within the parkway and the construction of Old Agency Road Relocated, a major positive impact.

Cultural Resource Impacts

Historic Sites

Analysis. Under this alternative Old Agency Road from Whippoorwill Lane east to the Highland Colony Parkway would be closed, removing 1.4 kilometers (0.9 mi.) of roadway. Closing this section of the Old Natchez Trace would be considered a moderate adverse impact because of the construction of an appropriate at-grade crossing for the parkway motor road, and because use and circulation patterns that contribute to the road's feeling and association would be eliminated. The closed road segment would be restored to an appearance approximating what was likely typical of the Natchez Trace during its early 19th century period of significance. While this would serve in part to mitigate the road's closure to vehicle traffic, current character-defining qualities of the road (e.g., a narrow roadway bordered by trees) would be significantly altered or lost.

Removing most of the Greenwood Plantation access drive within the NPS right-of-way would have a moderate adverse effect on the plantation, as described for alternatives 1 and 2. The drive is a contributing element of the plantation, and its closure and disturbance would irretrievably alter the historic approach to the property. Photo-documentation would be a possible mitigation to provide an archival record of the drive's current character-defining attributes.

Increased traffic noise could be experienced at Greenwood Plantation as a consequence of the combined effects of vehicles traveling along Old Agency Road Relocated and the Natchez Trace Parkway (both would pass within approximately 305 meters [1,000 ft.] of the plantation).

Cumulative Impacts. Similar to alternatives 1 and 2, closing and removing a portion of Old Agency Road (Old Natchez Trace) would represent an incremental loss of designed structural features / materials, patterns of transportation use, and character-defining qualities of the road corridor. While sections of Old Agency Road would remain open outside the parkway corridor, the current feeling and association motorists currently experience would be substantially diminished.

Conclusion. Alternative 3 would cause long-term, moderate adverse impacts to a 1.4 kilometer (0.9 mi.) portion of the historic Old Natchez Trace. This would be the greatest impact of any alternative. Patterns of historic circulation and use, along with character-defining attributes of the road corridor, would be lost. As described for alternatives 1 and 2, the removal of Greenwood Plantation access drive would irretrievably alter the historic approach to this property, a moderate adverse effect on the property's overall historical integrity.

Archeological Resources

Analysis. As described for alternative 2, the access road to the Choctaw Agency site and parking area would be sited to avoid any disturbance to archeological resources. NPS security measures, such as park patrols, surveillance, fencing, and educational outreach programs, would be implemented before interpretive site development and public interpretation were initiated. Providing direct access from the parkway motor road would allow the area to be more easily monitored, a moderate beneficial impact. However, it is possible that the access road would disturb the cultural setting of the area.

Cumulative Impacts. No cumulative impacts on archeological resources were identified.

Conclusion. The Choctaw Agency site would be avoided by construction disturbance and would not be affected. The park would undertake appropriate site protection measures to avoid or mitigate potential adverse effects related to public visitation before opening the site to interpretation.

Natural Resources

Air Quality

Analysis. Alternative 3 peak-hour traffic volumes on Old Agency Road Relocated between Richardson Road and Highland Colony Parkway are projected to be 1,125 vehicles in 2003 and 2,100 vehicles in 2020 (see table 18 below). Based on these volumes and speeds of 40 kph (25 mph), a CO screening test determined that the critical distance would be less than 3.1 meters (10 ft.) in 2003 and 5.9 meters (18 ft.) in 2020. Like alternatives 1 and 2, national ambient air quality standards would not be exceeded, and air quality impacts would be negligible.

TABLE 18: AIR QUALITY DATA SUMMARY, ALTERNATIVE 3

Year	Average Speed	Design-Hour Traffic Volumes	Critical Distance	Closest Receptor
2003	40 kph (25 mph)	1,125	<3.1 m (<10 ft.)	Approx. 30.5 m (100 ft.)
2020	40 kph (25 mph)	2,100	5.9 m (18 ft.)	Approx. 30.5 m (100 ft.)

Cumulative Impacts. Traffic volumes on other roadways throughout the study area would continue to increase along with population increases. However, the cumulative effect of the combined traffic volumes are not expected to exceed national ambient air quality standards for carbon monoxide.

Conclusion. Alternative 3 would have a negligible impact on air quality over the short and long term. Alternative 3 would not cause violations of the national ambient air quality standards for carbon monoxide. No mitigation measures would be required with this alternative.

Soils

Analysis. As described for alternatives 1 and 2, mitigating measures would be taken for where road alignments crossed soils classified as silt loams that have low strength for streets and roads. Soil erosion would result from the clearing of some vegetation from the project area, exposing project soils to erosive water and wind action. Some soils could be enhanced and improved with the removal of roads and the restoration of vegetation. A soil erosion control plan would be prepared and implemented (see page 26).

Long-term and negligible effects on project area soils would include excavation, the mixing of soil horizons, and the addition of aggregate fill and road surface pavement over existing soils. The exact amount of soil that would be excavated is unknown; however, under this alternative a total of 11.7 hectares (28.8 ac.) of vegetation would be affected, which is indicative of the surface acreage of soils that would be impacted by construction.

Cumulative Impacts. No cumulative impacts were identified under this alternative.

Conclusion. Long-term, negligible impacts would occur to project area soils due to excavation. Mitigation efforts would be undertaken to prevent soil erosion and to address the expansive characteristics of local soils.

Wetlands

Analysis. A total of 0.7 hectare (1.7 ac.) of riverine and palustrine emergent, scrub/shrub, and forested wetlands would be filled by constructing the parkway motor road, Old Agency Road Relocated, and the extension of Richardson Road. Table 19 identifies the potential adverse or beneficial impacts to wetland areas 1 through 10. Impacts to all wetland areas would be the same as alternative 2, except for negligible adverse impacts that would occur in the eastern portion of wetland area 7. The extension of Richardson Road to Old Agency Road Relocated would result in the loss of 34.8 square meters (37.9 sq. yds.) of wetland, reducing the size of wetland 7 by 2.6 %. No impacts would result from the bridge along the parkway motor road that would cross Richardson Road.

TABLE 19: WETLAND IMPACTS, ALTERNATIVE 3

Wetland	Size of Wetland Affected	Percentage of Wetland Area Affected	Impact Intensity and Direction
1	<0.01 ha (<0.01 ac.)	0.3	negligible adverse
2	0	0	no impact
3	0	0	no impact
4 and 6	0.4 ha (1.1 ac.)	40	major adverse
5	0	0	minor beneficial
7	<0.01 ha (<0.01 ac.)	2.6	negligible adverse
8	<0.1 ha (0.15 ac.)	15	moderate adverse
9	0.2 ha (0.4 ac.)	13	moderate adverse
10	0	0	no impact

Based on the NPS wetland protection guidelines *(DO-69: Wetland Protection)*, a statement of findings would be required to implement this alternative. Suitable wetland restoration areas would need to be identified to provide a 1:1 functional replacement of wetland permanently lost.

Cumulative Impacts. Although 34.8 additional square meters of wetland would be impacted by actions in alternative 3 than in alternative 2, cumulative impacts would be the same as alternative 2.

Conclusion. Approximately 0.7 hectare (1.7 ac.) of wetlands would be permanently filled to construct new roads. Impacts would be similar to alternative 2. No adverse impacts would occur to wetland areas 2, 3, 5 and 10. Negligible adverse impacts would occur to wetland areas 1 and 7 because of road fill that would slightly reduce the size of both wetlands. Moderate long-term, adverse impacts would occur to wetland areas 8 and 9 because of reduction in wetland size. Major, long-term adverse impacts would occur in wetland areas 4 and 6, as each wetland area would be reduced in size approximately 35% to 40%, and the remaining wetland sections would be fragmented. Removing portions of Old Agency Road and other access roads could provide opportunities to improve wetland systems in areas 5 and 7.

The development of the remaining sections of the parkway motor road to the west of the study area would result in an additional loss of 0.6 hectare (1.5 ac.) and a cumulative wetland impact of 1.3 hectares (3.2 ac.).

Water Quality

Analysis. As described for alternatives 1 and 2, potential impacts to water quality from construction of the parkway motor road and Old Agency Road Relocated would occur in the same areas as described under "Wetland" impacts. Construction would cause short-term, negligible adverse impacts on the water quality of the small, unnamed tributaries of White Oak Creek and Purple Creek. Mitigating measures would be taken to reduce impacts as described beginning on page 26.

Anticipated traffic volumes on the Natchez Trace Parkway and Old Agency Road Relocated would be less than 30,000 vehicles per day. Water quality impacts caused by highway runoff would be long-term, but negligible.

Water runoff from the road surfaces, embankments, and other parkway elements would be directed through culverts and other water drainage structures. The local surface-water drainage patterns would not change, although stormwater discharge could increase. The restoration of Old Agency Road and of access roads within the study area would allow the enhancement or possible reestablishment of historic drainage patterns.

Conclusion. As described for alternatives 1 and 2, short-term, negligible adverse impacts would occur to water quality caused as a result of construction activity releasing soil and debris into unnamed streams. Stormwater discharged into local streams could result in long-term, minor impacts from increased peak flows. Restoring former road alignments could benefit local hydrologic and drainage patterns.

Vegetation

Analysis. This alternative would be similar to alternative 2, except that all of Old Agency Road within the project area would be fully restored to Old Trace appearances, Richardson Road would be extended to Old Agency Road Relocated, and the parkway motor road would bridge over the extended Richardson Road.

Table 20 identifies vegetation impacts and restoration opportunities for alternative 3 by vegetation type. While individually these impacts would be most likely minor to moderate, collectively the loss of 8.1 hectares (20.1 ac.) of vegetation would be moderate to major because it would be permanent, highly noticeable, and substantial within the boundaries of the project area.

TABLE 20: VEGETATION IMPACTS, ALTERNATIVE 3

	Vegetation Loss for		Revegetation					
Vegetation Type	New Roads		Old Agency Road		Other Roads		Net Loss	
Mixed Hardwood	0.8 ha	(2.0 ac.)	*0*		*0*		0.8 ha	(2.0 ac.)
Pine/Oak	3.4 ha	(8.3 ac.)	*1.0 ha*	*(2.4 ac.)*	*0.3 ha*	*(0.7 ac.)*	2.1 ha	(5.2 ac.)
Late Successional Fields	4.1 ha	(10.2 ac.)	*1.5 ha*	*(3.6 ac.)*	*0.1 ha*	*(0.2 ac.)*	2.5 ha	(6.4 ac.)
Agricultural Fields	3.4 ha	(8.3 ac.)	*0.7 ha*	*(1.8 ac.)*	*0*		2.7 ha	(6.5 ac.)
Net Total	**11.7 ha**	**(28.8 ac.)**	***3.2 ha***	***(7.8 ac.)***	***0.4 ha***	***(0.9 ac.)***	**8.1 ha**	**(20.1 ac.)**

Note: Italicized numbers represent areas restored or replanted with native vegetation.

Mixed-Hardwood Forest — Impacts would be the same as alternative 1; 0.8 hectare (2.0 ac.) of this vegetative type would be cleared during construction, and no revegetation would occur.

Pine/Oak Forest — New road development would result in the removal of 3.4 hectares (8.3 ac.) of pine/oak forest. With the removal of existing roads and restoration or revegetation, long-term net loss of pine/oak forest would be 2.1 hectares (5.2 ac.). This loss would be major because it would be substantial and highly noticeable.

Late Successional Fields — Impacts would be the same as alternative 1. New road development would result in the removal of 4.1 hectares (10.2 ac.); with restoration and revegetation, this loss of late successional fields would be reduced to 2.5 hectares (6.4 ac.).

Agricultural Fields — Additional segments of the Old Agency Road would be removed, compared to alternative 1, allowing for the restoration to Old Trace appearances of 0.7 hectare (1.8 ac.) of agricultural field. However, the long-term net loss would be 2.7 hectares (6.5 ac.) of agricultural fields, a minor to moderate effect.

Cumulative Impacts. Cumulative impacts would be the same as alternatives 1 and 2. Additional vegetation losses would occur within the project area because of the multi-use trail and could occur in the local area because of other parkway projects.

Conclusion. The development of new roads would result in the loss of approximately 11.7 hectares (28.8 ac.) of vegetation during construction. The removal of some roads, including all of Old Agency Road within the project area, Brame Road, and access roads into the Dinsmor subdivision and Greenwood Plantation, would allow for restoration or revegetation of approximately 3.6 hectares (8.7 ac.). The long-term impact would be moderate to major within the project area, with a net loss of 8.1 hectares (20.1 ac.) of vegetation. Compared to alternative 1, less pine/oak forest would be adversely affected, and more agricultural field would be affected, resulting in a similar net loss. The construction of a multi-use trail within the parkway motor road and other parkway projects east and west of the project area would cause permanent cumulative losses of vegetation in the local area.

Wildlife

Analysis. As discussed in alternative 1, the loss of vegetation in this alternative could result in minor wildlife population decreases because of the potential loss of habitat. Other impacts relate to wildlife fragmentation and isolation due to the development of new roadways. Potential long-term losses of wildlife habitat would total 8.1 hectares (20.1 ac.).

Cumulative Impacts. Cumulative impacts would be the same as alternatives 1 and 2. Vegetation losses associated with a new multi-use trail could result in some minor losses and fragmentation of wildlife habitat.

Conclusion. Vegetation losses would result in a long-term decrease of 8.1 hectares (20.1 ac.) of potential wildlife habitat and minor impacts on wildlife populations. Local parkway and trail projects could also result in additional long-term and cumulative losses of wildlife habitat.

Threatened or Endangered Species, or Species of Special Concern

Analysis. Impacts would be the same as alternatives 1 and 2. Short-term impacts due to vegetation clearing could result in diminished habitat for any state-listed species occurring in the project area during construction; additional habitat loss and permanent fragmentation could occur when roadways were complete. For all state-listed species of concern, the impacts would be either minor (the amount of habitat impacted would not be significant enough to substantially decrease species' population) or negligible (the habitat type is not supported) for species that do occur or could potentially occur within the parkway motor road corridor.

Cumulative Impacts. No cumulative effects would occur because of the lack of significant habitat for special status species (the same as alternatives 1 and 2).

Conclusion. No federally listed species are found within the project area. Impacts to Mississippi species of special concern would be negligible to minor because of the potential loss of habitat.

Socioeconomic Environment

Land Use

Analysis. *Consistency with Local Comprehensive Plans* —As described for alternatives 1 and 2, this alternative is consistent with Ridgeland's *Comprehensive Plan,* which shows the Natchez Trace Parkway extending from I-55 west to the vicinity of Whippoorwill Lane and Highland Colony Parkway as a major arterial. As described for alternative 2, providing access to the Choctaw Agency site from the parkway motor road would complement cultural and historic goals and policies in the *Comprehensive Plan*.

Consistency with the Local Transportation Plans — As described for alternatives 1 and 2, local transportation plans would not be affected by this alternative.

Planned Developments — Impacts would be the same as under alternatives 1 and 2. Alternative 3 would not have direct impacts on the planned unit residential development at Brame Road and Highland Colony Parkway, and traffic on Brame Road could increase. Plans for an elderly care center near the entrance to the Dinsmor subdivision would not be impacted by this alternative.

Cumulative Impacts. No cumulative impacts would result from implementing this alternative.

Conclusion. This alternative would be beneficial in its consistency with the local *Comprehensive Plan* and the *Jackson Metropolitan Area Transportation Plan.* This alternative would complement the *Comprehensive Plan's* cultural and historic goals by providing access to the Choctaw Agency site from the parkway.

Visual Resources

Analysis. Actions in alternative 3 that could affect visual resources include the construction of the parkway motor road, Old Agency Road Relocated, the extension of Richardson Road south to Old Agency Road Relocated, and a parkway motor road bridge over the Richardson Road extension, plus the closure and restoration of Old Agency Road to Old Trace appearances from near Whippoorwill Lane to Highland Colony Parkway.

Densely Wooded Areas — There would be a long-term, major adverse impact in the western and central portions of the corridor as a result of clearing in densely wooded areas (mixed hardwood and pine/oak forest). There would be a total net loss of approximately 2.9 hectares (7.2 ac.) of densely wooded area. Some areas affected during construction would be revegetated. Limits on excessive clearing would be instituted to reduce the amount of vegetation that would be removed.

Open Fields — There would be a long-term, major adverse impact to intermingled open fields (late successional and agricultural fields) within the central portion of the parkway corridor due to the additional excavation for the extension of Richardson Road and the parkway bridge over it. There would be a total net loss of approximately 5.2 hectares (12.8 ac.) of open fields.

Views of the Parkway — Vegetative clearing required for construction would open views of the parkway (including bridge earth fill slope embankments) and a portion of Old Agency Road Relocated. From the north views from seven residences in the Windrush subdivision and four residences in the Canterbury subdivision would be affected. From the south views from nine residences in the Dinsmor subdivision and Greenwood Plantation would be affected by Old Agency Road Relocated. The revegetation of disturbed areas would screen some views. These would be short-term, moderate visual impacts.

The parkway bridge (including embankments) over the Richardson Road extension would be located in intermingled wooded and open field areas. Filtered views of the bridge and embankments would occur from adjacent residential subdivisions, while direct views would occur from the existing Richardson Road (primarily southbound).

Visual Experience — Similar to alternatives 1 and 2, the visual experience would be changed for users of the parkway and Old Agency Road Relocated, as well as for users of Richardson Road under this alternative. The loss of roadside views, including historic and cultural sites, glimpses through dense woods to open fields, the contrast of shaded and open sunlit areas, would be a long-term, major impact. The continuity of the visual experience along the parkway would be enhanced with consistent designs and use of materials and details, constituting a long-term, major benefit.

Cumulative Impacts. As described for alternatives 1 and 2, the construction of a multi-use trail within the parkway corridor would have a negligible impact on visual resources.

Conclusion. Under alternative 3 there would be long-term, major adverse visual impacts, similar to alternatives 1 and 2. These would result from clearing mature trees in densely wooded areas, additional clearing in open field areas, and changing the visual experience of users. Clearing in densely wooded areas and new views of the parkway (including a bridge and embankments), Old Agency Road Relocated, and the Richardson Road extension would be short-term, moderate impacts pending the revegetation of disturbed areas. Completing this parkway section would improve the continuity of the visual experience, providing long-term, major benefits.

Recreational Users and Facilities

Analysis. As described for alternatives 1 and 2, completing this section of the parkway motor road would improve the continuity of the Natchez Trace Parkway, significantly enhancing the recreational driving experience for parkway travelers. This would provide a long-term, major beneficial impact.

Like alternative 2, an access road would be provided from the parkway motor road to a visitor parking area adjacent to the Choctaw Agency site. This visitor access would make it easier to provide interpretive and educational programs at the site. Programs could be offered to local residents, as well as parkway users. This would result in a long-term, moderate beneficial impact.

Cumulative Impacts. As described for alternatives 1 and 2, the construction of a multi-use recreational trail would accommodate nonmotorized use and minimize conflicts between trail users and vehicular traffic on adjacent roadways. The trail could connect with a network of other trails in the area, providing local residents as well as parkway travelers additional recreational opportunities, such as hiking and bicycling. This would provide a long-term, moderate beneficial impact.

Conclusion. As described for alternatives 1 and 2, completing this section of the Natchez Trace Parkway would improve the continuity of the recreational driving experience for parkway travelers, a long-term, major beneficial impact. Like alternative 2, providing access to and parking at the Choctaw Agency site would make it easier to offer interpretive and educational programs, enhancing opportunities for parkway users and local residents. This would be a long-term, moderate beneficial impact. A multi-use recreational trail would provide local residents as well as parkway users additional recreational opportunities, a long-term, moderate beneficial impact.

Local Residents

Analysis. Under alternative 3 the following actions could affect local residents: the construction of the parkway motor road, Old Agency Road Relocated, the Richardson Road extension (including a parkway bridge), and the closure and restoration of Old Agency Road between Whippoorwill Lane and Highland Colony Parkway. Compared to alternatives 1 and 2, this alternative would have different impacts because of the extension of Richardson Road and the parkway bridge.

Rural Character — Impacts would be the same as alternative 1, except that the Richardson Road extension south to Old Agency Road Relocated and the parkway bridge would require additional removal of vegetation. Some impacted areas would be revegetated, and efforts would be made to minimize clearing. Because the parkway bridge would be in the central portion of the corridor, the additional loss of vegetation would have a short-term, moderate impact on the setting of adjacent residences. The introduction of a higher speed urban roadway (including a bridge) and related increases in traffic volume would be short-term, moderate impacts.

The restoration of Old Agency Road between Whippoorwill Lane and Highland Colony Parkway to Old Trace appearances would improve privacy and seclusion for seven residences in the Windrush subdivision and four residences in the Canterbury subdivision, as well as for St. Andrew's School. This would be a long-term, major benefit of this alternative.

Community Qualities — As described for alternatives 1 and 2, there would be no effect on community qualities under this alternative.

Accessibility — The Richardson Road extension would slightly improve access to local attractions across the parkway corridor, resulting in minor out-of-direction travel. Access to uses along Brame Road and to Greenwood Plantation would be the same as alternative 2. However, access to I-55 via Highland Colony Parkway from Old Agency Road Relocated would result in a long-term, moderate effect on regional accessibility, as described for alternative 2.

Cumulative Impacts. As described for alternatives 1 and 2, a multi-use trail would possibly improve the quality of life for local residents.

Conclusion. Similar to alternatives 1 and 2, impacts on the rural setting from the clearance of vegetation, the intrusion of urban standard roadways and a bridge, and the proximity of roadways to established residential subdivisions would be short term and moderate. There would be additional loss of vegetation with this alternative due to the extension of Richardson Road south to Old Agency Road Relocated. The parkway bridge over the Richardson Road extension would have a similar impact as the parkway bridge over Old Agency Road Relocated in alternative 1. A multi-use trail would possibly improve the quality of life for local residents. Closing and restoring Old Agency Road to Old Trace appearances from near Whippoorwill Lane to Highland Colony Parkway would increase privacy and seclusion for residences along the northern boundary of the parkway corridor, a long-term, major benefit. Similar to alternative 2, access to I-55 via Highland Colony Parkway from Old Agency Road Relocated would result in a long-term, moderate effect on regional accessibility. With the Richardson Road extension, minor out-of-direction travel would be required for access to local attractions across the parkway corridor.

Noise

Analysis. Noise levels would be similar to those described under alternative 1, except noise levels would be reduced by 1 to 3 dB(A) at the Choctaw Agency site and the Canterbury subdivision because Old Agency Road would be fully restored to Old Trace appearances (see table 21). Negligible to minor increases in noise levels would occur in the short term; minor to moderate increases would occur in the long term. The smallest increases would occur in the vicinity of the Choctaw Agency site, the Canterbury subdivision, and the east Windrush subdivision. The greatest increase (11 to 12 dB(A)) would occur in the Dinsmor and the west Windrush subdivisions, near Brame Road, and at Greenwood Plantation because of the addition of Old Agency Road Relocated. This increase would not exceed state guidelines, and all noise levels (the highest projected level would be 58dB(A) at the Choctaw site in 2020) would be less than FHWA noise abatement criteria for residential and park areas (67 dB(A)). As described for alternative 1, construction noise would also occur in the short-term, but is allowed during daytime hours (6 A.M. to 6 P.M.), according to city noise ordinances.

TABLE 21: PROJECTED NOISE LEVELS, ALTERNATIVE 3

Residential Area or Site	Noise Abatement Criteria (Leq)	Existing Conditions (dB(A))	2003 Projection (dB(A))	2020 Projection (dB(A))
East Windrush	67	47	49	53
West Windrush	67	41	48	52
East Dinsmor	67	42	52	54
West Dinsmor	67	44	51	54
Brame Road	67	37	46	49
Canterbury	67	51	50	53
Greenwood Plantation	67	36	44	47
Choctaw Agency Site	67	53	54	58

Cumulative Impacts. Cumulative impacts would be the same as alternative 1. Additional construction-related noise could occur due to adjacent parkway projects.

Conclusion. The full restoration of Old Agency Road and the addition of the parkway motor road and Old Agency Road Relocated would result in a negligible to minor increase in short-term noise levels and a minor to moderate increase in long-term noise levels at all adjacent residential areas and other sites. The greatest increase in long-term noise levels would be 12 dB(A) at east Dinsmor and Brame Road and 58 dB(A) near the Choctaw Agency site. Neither level would exceed the state guidelines or approaches the FHWA noise abatement criteria of 67 dB(A).

Unavoidable Adverse Effects

Impacts to access would be major because both travel patterns and access locations would change.

Similar to alternative 1 and 2, alternative 3 would cause long-term, moderate adverse impacts to the portion of Old Natchez Trace (Old Agency Road) that would be restored to Old Trace appearances, but the impact would be more extensive under this alternative because a longer segment of Old Agency Road would be removed (1.4 km [0.9 mi.] compared to 0.7 km [0.4 mi.]). The loss of historic access to Greenwood Plantation would be an unavoidable adverse effect (the same as alternatives 1 and 2).

A total of 0.7 hectare (1.7 ac.) of riverine and palustrine emergent, scrub/shrub, and forested wetlands would be filled by construction of the parkway motor road, Old Agency Road Relocated, and the Richardson Road extension. Major long-term adverse impacts would occur in wetland areas 4 and 6, as each wetland area would be reduced in size approximately 35% to 40% and the remaining wetland sections would be fragmented (the same as alternative 2). A total of 8.1 hectares (20.1 ac.) of vegetation would be impacted by alternative 3.

Extensive clearing in wooded areas, traversing of open fields, and revegetation would have short-term, moderate impacts on the visual character of the area and on views from adjacent subdivisions.

Relationship of Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

As described for alternatives 1 and 2, the effects of construction on the parkway's natural and cultural resources, visitor services, and the region's socioeconomic environment would be primarily short term and of moderate impact. The effects of revegetation, which would begin immediately following construction, would be clearly visible for one to two years, and wildlife temporarily displaced by construction would be expected to reoccupy parkway lands near the new roadway once construction was completed.

There would be long-term impacts to a 1.4 kilometer (0.9 mi.) portion of the Old Natchez Trace and the Greenwood Plantation access drive as a result of closing and restoring or revegetating these roads. Following construction, the National Park Service would continue to manage parkway lands to preserve the natural and cultural resources and to provide visitor experiences and services consistent with resource management needs.

There would be short-term traffic disruption during construction. However, the long-term gain would be the construction of the parkway motor road, allowing visitors direct access to cultural resources.

Short-term impacts related to construction would also include a negligible increase in both employment opportunities for construction workers and in the revenues generated by construction activities for local businesses and government. Over the long term, however, the proposed development would have a negligible impact on the region's socioeconomic environment.

Irreversible and Irretrievable Commitments of Resources

Alternative 3 would cause irreversible moderate adverse impacts to a 1.4 kilometer (0.9 mi.) portion of the historic Old Natchez Trace, resulting in the loss of patterns of historic circulation and use, along with character-defining attributes of the road corridor. This loss would be greater than under alternatives 1 and 2. Constructing the parkway motor road and Old Agency Road Relocated would result in the removal of a portion of the Greenwood Plantation access drive within the NPS right-of-way, irretrievably altering the historic approach to this property.

Under alternative 3 approximately 0.7 hectare (1.7 ac.) of wetlands would be permanently filled to construct new roads, and net vegetation losses would total of 8.1 hectares (20.0 ac.). Wetland and vegetation losses would be considered irretrievable commitments of resources.

This alternative would require minor amounts of fossil fuels, labor, and highway construction materials, such as aggregate and bituminous material. These resources are not in short supply, and their use would not have an adverse effect on continued availability of these resources. The proposed construction would also result in an irreversible commitment or expenditure of funds.

IMPACTS OF ALTERNATIVE 4

Transportation/Traffic Impacts

Access

Analysis. The roadway configuration in alternative 4 would create a moderate impact to access. Access would continue to all roads, but some travel patterns would be altered. Drivers accessing Brame Road, Greenwood Plantation, and the Dinsmor subdivision might be inconvenienced over the short term as they adjusted to new travel patterns. Over the long term the addition of an intersection at Highland Colony Parkway and Old Agency Road Relocated would provide a more direct route to these residential areas. No changes would be made to the existing access points for St. Andrew's School and its athletic fields.

As described for the other alternatives, no direct local access would be provided to the parkway motor road, in accordance with the legislation establishing the parkway. This alternative would provide access from the parkway motor road to the Choctaw Agency site (the same as alternatives 2 and 3).

Cumulative Impacts. As described for alternatives 1, 2, and 3, the parkway motor road would provide a potential alternate route for commuters who are already using the segment of the parkway motor road east of I-55. Ongoing improvements and additions to the parkway motor road both northeast and southwest of the project area would continue to improve interstate recreational travel.

Conclusion. Impacts to access would be moderate. There would be short-term adverse impacts while drivers were becoming familiar with the new route. Over the long-term, access would be provided to all local roads. Changes in travel time, due to rerouting, would be minor over the long term.

Volumes

Analysis. There would be a moderate reduction in traffic volumes along Old Agency Road from 10,000 to approximately 8,000 vehicles per day. The reductions should benefit drivers continuing to use Old Agency Road, as the delay to turn from the cross-streets should be reduced. The volumes estimated for Old Agency Road Relocated would be minimal, less than 2,000 vehicles per day, including those accessing Brame Road, Greenwood Plantation, and a portion of the through-traffic that would divert from Old Agency Road. The volumes of both roads would be within the threshold for collector roadways.

Volumes on the parkway motor road would be the same as alternative 1. Approximately 7,200 vehicles per day would occur on the parkway on opening day. The extent of future volume increases would depend on the development of additional east-west commuter routes in the local vicinity.

Cumulative Impacts. As described for alternatives 1, 2, and 3, traffic volumes on the new parkway motor road segment could increase if it was used by commuters. Proposed long-range improvements in the Ridgeland *Transportation Plan Update* include constructing additional, more direct east-west corridors that would alleviate the use of the parkway motor road by commuter traffic.

Conclusion. Volume impacts would be moderate as a portion of traffic on Old Agency Road would be shifted to Old Agency Road Relocated.

Safety

Analysis. Impacts to safety would be minor. Old Agency Road would remain without improvement to sight distances, grade, or clear zone; thus, the potential for a high accident rate would remain. Old Agency Road Relocated would be constructed to appropriate standards, providing adequate sight distance, and safety should be improved. Safety mitigation should include designing the new intersection at Old Agency Road and Old Agency Road Relocated as a T intersection to provide adequate sight distance. Less than 2,000 vehicles per day, including those accessing Brame Road, Greenwood Plantation, and a portion of the through-traffic would be diverted from Old Agency Road, but this would not be enough to substantially reduce the accident rate on Old Agency Road.

Cumulative Impacts. A potential reduction in commuter traffic on the parkway motor road once other east-west connector streets were constructed would enhance safety, the same as the other alternatives.

Conclusion. Improvements to safety would be minor since Old Agency Road would remain open. Less than 2,000 vehicles per day would be shifted to Old Agency Road Relocated, which would not be enough to improve safety conditions on Old Agency Road.

Cultural Resource Impacts

Historic Sites

Analysis. Under this alternative Old Agency Road (Old Natchez Trace) within the NPS right-of-way would continue to operate, and the new parkway motor road would pass over the historic trace, thus avoiding physical disturbances otherwise associated with an at-grade crossing. However, the parkway overpass would visually intrude on the historical setting of the road corridor; therefore, it would result in a major adverse effect. Vegetation screening could soften or reduce the visual impacts of the overpass, but the structure would nevertheless be out of keeping with the historical appearance of the Old Natchez Trace in this section.

As described for the other alternatives, removing most of the Greenwood Plantation access drive would have a moderate adverse effect on historic access to the plantation. The drive is a contributing element of the plantation, and its closure and disturbance would irretrievably alter the historic approach to the property. Photo-documentation would be a possible mitigation alternative to provide an archival record of the drive's current character-defining attributes.

Increased traffic noise could be experienced at Greenwood Plantation as a consequence of the combined effects of vehicles traveling along Old Agency Road Relocated and the Natchez Trace Parkway (both would pass within approximately 305 meters [1,000 ft.] of the plantation).

Cumulative Impacts. Leaving the portion of Old Agency Road (Old Natchez Trace) open for traffic would not change the current experience motorists have as they drive along the extended road corridor.

Conclusion. Although this alternative would preserve the segment of Old Agency Road (Old Natchez Trace) within the NPS right-of-way, and would protect the trace from disturbances associated with an at-grade crossing, a parkway overpass would nevertheless intrude on the physical setting of the road corridor, resulting in a major adverse effect. Closing a portion of the Greenwood Plantation access drive within the NPS right-of-way would irretrievably alter the approach to this historic property, a moderate adverse effect on the property's overall historical integrity.

Archeological Resources

Analysis. As described for alternatives 2 and 3, the access road to the Choctaw Agency site and parking area would be sited to avoid any disturbance to archeological resources. NPS security measures, such as park patrols, surveillance, fencing, and educational outreach programs, would be implemented before interpretive site development and public programs were initiated. Providing direct access from the parkway motor road would allow the area to be more easily monitored, a moderate beneficial impact. It is possible that the access road could disturb the cultural setting.

Cumulative Impacts. No cumulative impacts on archeological resources were identified.

Conclusion. The Choctaw Agency site would be avoided by construction disturbance and would not be affected. The park would undertake appropriate site protection measures to avoid or mitigate potential adverse effects related to public visitation before opening the site to interpretation.

Natural Resources

Air Quality

Analysis. Alternative 4 peak-hour traffic volumes for Old Agency Road between Richardson Road and Highland Colony Parkway are projected to be 900 vehicles in 2003 and 1,450 vehicles in 2020 (see table 22). Based on these volumes and speeds of 40 kph (25 mph), a CO screen determined that the critical distance would be less than 3.1 meters (10 ft.) in 2003 and 2020 (the same as alternative 2). Like the other alternatives, national ambient air quality standards would not be exceeded, and air quality impacts would be negligible.

TABLE 22: AIR QUALITY DATA SUMMARY, ALTERNATIVE 4

Year	Average Speed	Design-Hour Traffic Volumes	Critical Distance	Closest Receptor
2003	40 kph (25 mph)	900	<3.1 m (<10 ft.)	Approx. 30.5 m (100 ft.)
2020	40 kph (25 mph)	1,400	<3.1 m (<10 ft.)	Approx. 30.5 m (100 ft.)

Cumulative Impacts. Traffic volumes on other roadways throughout the study area would continue to increase as population increased. However, total traffic volume increases are not expected to exceed national ambient air quality standards for carbon monoxide.

Conclusion. Alternative 4 would have a negligible impact on air quality over the short and long term. Alternative 4 would not cause violations of the national ambient air quality standards for carbon monoxide. No mitigation measures would be required.

Soils

Analysis. As described for alternatives 1, 2, and 3, mitigating measures would be taken for where road alignments crossed soils classified as silt loams that have low strength for streets and roads. Soil erosion would result from the clearing of some vegetation from the project area, exposing soils to erosive water and wind action. Some soils could be enhanced and improved with the removal of roads and the restoration of vegetation. A soil erosion control plan would be prepared and implemented (see page 26).

Long-term, negligible effects on project area soils would include excavation, the mixing of soil horizons, and the addition of aggregate fill and road surface pavement over existing soils. The exact amount of soil that would be excavated is unknown; however, the amount of vegetation that would be disturbed under this alternative by construction (11.1 ha [27.5 ac.]) is indicative of the surface acreage of soils that would be impacted.

Cumulative Impacts. No cumulative impacts were identified under this alternative.

Conclusion. Long-term, negligible impacts would occur to project area soils due to excavation. Mitigation efforts would be undertaken to prevent soil erosion and to address the expansive characteristics of local soils.

Wetlands

Analysis. Approximately 0.7 hectare (1.7 ac.) of riverine and palustrine emergent, scrub/shrub, and forested wetlands would be filled as a result of constructing the parkway motor road and Old Agency Road Relocated. Table 23 identifies the potential adverse or beneficial impacts to wetland areas 1 through 10. Impacts to all wetland areas would be the same as alternative 2, except for the loss of restoration opportunities that would result in wetland areas 5 and 7. Old Agency Road Relocated would be constructed; however, Old Agency Road would remain in its current location.

TABLE 23: WETLAND IMPACTS, ALTERNATIVE 4

Wetland	Size of Wetland Affected	Percentage of Wetland Area Affected	Impact Intensity and Direction
1	<0.01 ha (<0.01 ac.)	0.3	negligible adverse
2	0	0	no impact
3	0	0	no impact
4 and 6	0.4 ha (1.1 ac.)	40	major adverse
5	0	0	no impact
7	0	0	no impact
8	<0.1 ha (<0.2 ac.)	15	moderate adverse
9	0.2 ha (0.4 ac.)	13	moderate adverse
10	0	0	no impact

Based on the NPS wetland protection guidelines *(DO-69: Wetland Protection)*, a statement of findings would be required to implement this alternative. Suitable wetland restoration areas would need to be identified to provide a 1:1 functional replacement of wetland permanently lost.

Cumulative Impacts. Cumulative impacts would be the same as alternative 2.

Conclusion. Approximately 0.7 hectare (1.7 ac.) of wetlands would be permanently filled to construct new roads. As described for alternative 2, no adverse impacts would occur to wetland areas 2, 3, 5, 7, and 10. Negligible adverse impacts would occur to wetland area 1. Moderate long-term adverse impacts would occur to wetland areas 8 and 9 because of reduction in wetland size. Major long-term adverse impacts would occur in wetland areas 4 and 6, as each wetland area would be reduced in size approximately 35% to 40%, and the remaining wetland sections would be fragmented.

As described for alternatives 2 and 3, the development of remaining sections of the parkway motor road to the west of the study area would result in an additional loss of 0.6 hectare (1.5 acres) and a cumulative wetland impact of 1.3 hectares (3.2 acres).

Water Quality

Analysis. As described for alternatives 1, 2, and 3, potential impacts to water quality from construction of the parkway motor road and Old Agency Road Relocated would occur in the same areas as described under "Wetland" impacts. Construction would cause short-term, negligible impacts.

Anticipated traffic volumes on the Natchez Trace Parkway and Old Agency Road Relocated would be less than 30,000 vehicles per day. Water quality impacts caused by highway runoff would be long-term, but negligible.

Water runoff from the road surfaces, embankments, and other parkway elements would be directed through culverts and other water drainage structures. The local surface-water drainage patterns would not change, although stormwater discharge could increase. The restoration of access roads within the study area would allow the enhancement or possible reestablishment of historic drainage patterns.

Conclusion. As described for alternatives 1, 2, and 3, short-term and negligible adverse impacts would occur to water quality as a result of construction activity releasing soil and debris into unnamed streams. Stormwater discharged into local streams could result in long-term, minor impacts from increased peak flows. The restoration of removed and relocated roads could benefit local hydrologic and drainage patterns.

Vegetation

Analysis. Vegetation impacts under alternative 4 would be greater than under all other alternatives because Old Agency Road would remain open, resulting in fewer restored acres, plus a bridge would be added for the parkway motor road to cross over Old Agency Road. (The wide roadway width, about 30.5 meters [100 ft.], used to calculate vegetation impacts takes into account the impact of the bridge proposed under this alternative.) Although Old Agency Road would not be removed and restored, the other roadways identified in alternative 1 (portions of Brame Road and the access roads to Dinsmor and Greenwood Plantation) would be removed, revegetated, and allowed to return to a natural state.

Impacts by vegetation type are identified in table 24. While individually these impacts would be most likely minor to moderate, collectively the loss of 10.7 hectares (26.6 ac.) of vegetation would be moderate to major because it would be permanent, highly noticeable, and substantial within the boundaries of the project area. All impact intensities for each vegetation type are the same as alternative 1; only the number of hectares lost varies because of some deviations in road locations and the amount of roadway restored.

TABLE 24: VEGETATION IMPACTS, ALTERNATIVE 4

Vegetation Type	Vegetation Loss for New Roads		Revegetation			Net Loss	
			Old Agency Road	Other Roads			
Mixed Hardwood	0.8 ha	(2.0 ac.)	*0*	*0*		0.8 ha	(2.0 ac.)
Pine Oak	3.2 ha	(7.9 ac.)	*0*	*0.3 ha*	*(0.7 ac.)*	2.9 ha	(7.2 ac.)
Late Successional Field	3.7 ha	(9.3 ac.)	*0*	*0.1 ha*	*(0.2 ac.)*	3.6 ha	(9.1 ac.)
Agricultural Fields	3.4 ha	(8.3 ac.)	*0*	*0*		3.4 ha	(8.3 ac.)
Net Total	**11.1 ha**	**(27.5 ac.)**	***0***	***0.4 ha***	***(0.9 ac.)***	**10.7 ha**	**(26.6 ac.)**

Note: Italicized numbers represent areas restored or replanted with native vegetation.

Mixed-Hardwood Forest — Impacts would be the same as alternative 1 – 0.8 hectare (2.0 ac.).

Pine/Oak Forest — Assuming some revegetation of existing roadways, a net loss of 2.9 hectares (7.2 ac.) would occur.

Late Successional Fields — With revegetation of some roadways, long-term net impact to late successional fields would be 3.6 hectares (9.1 ac.).

Agricultural Fields — Impacts to agricultural fields would be the same as those under alternative 2, resulting in a net vegetation loss of 3.4 hectares (8.3 ac.) for both the short and long term.

Cumulative Impacts. Cumulative impacts would be the same as alternative 1. Additional vegetation losses would occur within the project area because of the multi-use trail and other parkway projects in the local area.

Conclusion. New roads would result in the loss of approximately 11.1 hectares (27.5 ac.) of vegetation during construction. The removal of some roads, including portions of Brame Road and access roads to the Dinsmor subdivision and Greenwood Plantation, would allow for revegetation of approximately 0.4 hectare (0.9 ac.). The long-term impact would be moderate to major within the project area, with a net loss of 10.7 hectares (26.6 ac.) of vegetation. Compared to alternative 1, additional hectares of late successional and agricultural fields would be impacted because Old Agency Road would not be restored. The construction of a multi-use trail within the parkway motor road and other parkway projects to the east and west would cause permanent cumulative loss of vegetation in the local area.

Wildlife

Analysis. Wildlife impacts correlate to vegetation impacts that affect wildlife habitat. Other impacts relate to wildlife fragmentation and isolation due to the presence of new roadways under this alternative (see discussion in alternative 1). Potential long-term losses of habitat would total 10.7 hectares (26.6 ac.).

Cumulative Impacts. Cumulative impacts would be the same as the other alternatives and would result from a new multi-use trail and adjacent parkway construction projects. There could be some minor losses and fragmentation of wildlife habitat.

Conclusion. Vegetation losses would result in a long-term decrease of 10.7 hectares (26.6 ac.) of potential wildlife habitat and minor impacts on wildlife populations. Local parkway and trail projects could result in additional long-term and cumulative losses of wildlife habitat.

Threatened or Endangered Species, or Species of Special Concern

Analysis. Impacts would be the same as the other alternatives, and over the short term clearing could result in diminished habitat for any state-listed species occurring in the project area; additional habitat loss and permanent fragmentation could occur when roadways were complete. Impacts would be either minor or negligible.

Cumulative Impacts. No cumulative effects would occur because of the lack of significant habitat for special status species (the same as alternatives 1, 2, and 3).

Conclusion. No federally listed species are found within the project areas. Impacts to Mississippi species of special concern would be negligible to minor because of the potential loss of habitat.

Socioeconomic Environment

Land Use

Analysis. *Consistency with Local Comprehensive Plans* — Impacts would be the same as described for the other alternatives. The alternative is consistent with Ridgeland's *Comprehensive Plan,* which shows the Natchez Trace Parkway extending from I-55 west to the vicinity of Whippoorwill Lane and Highland Colony Parkway as a major arterial. As described for alternatives 2 and 3, providing access to the Choctaw Agency site from the parkway motor road would complement the cultural and historic goals and policies in the *Comprehensive Plan.*

Consistency with Local Transportation Plans — Alternative 4 would not be consistent with local plans that call for the relocation of Old Agency Road.

Planned Developments — Impacts would be the same as the other alternatives. There would be no direct impacts on the planned unit residential development at Brame Road and Highland Colony Parkway. Traffic on Brame Road could increase as a result of this development. Plans for an elderly care center near the entrance to the Dinsmor subdivision would not be affected by this alternative.

Cumulative Impacts. No cumulative impacts would result from implementing this alternative.

Conclusion. This alternative would not be consistent with the Jackson or Ridgeland long-range transportation plans to relocate Old Agency Road. Like alternatives 2 and 3, this alternative would complement the cultural and historic goals in Ridgeland's *Comprehensive Plan* by providing access to the Choctaw Agency site from the parkway motor road.

Visual Resources

Analysis. Under alternative 4 the following actions could affect visual resources: the construction of the parkway motor road, Old Agency Road Relocated, and a parkway bridge over existing Old Agency Road (which would remain open to traffic). Due to the skew of the bridge over Old Agency Road, the length of the bridge must span a much longer distance than the bridges in either alternative 1 or 3. The bridge likely would be a box girder type structure, which would increase the height of the bridge superstructure to approximately 7.5–8.2 meters (23–25 ft.) above Old Agency Road.

Densely Wooded Areas — Similar to the other alternatives, there would be long-term, major adverse impacts to densely wooded areas (mixed hardwood and pine/oak forest) in the western and central portions of the corridor. This clearing would interrupt the continuity of the wooded areas and the overhead tree canopy by creating a large, open swath through them. The continuity of the wooded areas and the overhead tree canopy creates much of the visual character of the area. Under this alternative the parkway bridge over existing Old Agency Road would require additional clearance in the vicinity of the Dinsmor access road and existing Old Agency Road. There would be a total net loss of approximately 3.7 hectares (9.2 ac.) of densely wooded area. Efforts would be made to avoid excessive clearance, and some construction areas where trees were removed would be revegetated.

Open Fields — There would be a long-term, major impact to the intermingled open fields within the central and eastern portions of the parkway corridor due to the open swath that would be cut through them for the parkway (including the bridge) and Old Agency Road Relocated. There would be a net total loss of approximately 7.0 hectares (17.4 ac.) of late successional and agricultural fields.

Views of the Parkway — Clearing required for construction would open views of the parkway (including the bridge and embankments) and a portion of Old Agency Road Relocated from adjacent residential subdivisions. On the north views from seven residences in the Windrush subdivision and from four residences in the Canterbury subdivision would be affected. On the south views from nine residences in the Dinsmor subdivision and Greenwood Plantation could also be affected. Revegetation of disturbed areas would screen some views from the Dinsmor subdivision and Greenwood Plantation. These would be short-term, moderate visual impacts.

Because of the increased height, length, and skewed angle of the bridge (including larger earth fill embankments), and its proximity to the Windrush subdivision, the bridge would be more visible and would further intrude on views. The height and length of the bridge and the size of the earth fill embankments would also make the revegetation of construction areas more extensive and would require additional time for trees to mature to screen views. These would be long-term, major impacts.

Visitor Experience — Similar to the other alternatives, the visual experience of users would be changed, constituting a long-term, major impact. Under this alternative Old Agency Road would be retained, and users would still be able to enjoy the features associated with this road. The continuity of the visual experience along the parkway would be enhanced with consistent designs and uses of materials and details, resulting in a long-term, major benefit.

Cumulative Impacts. As described for the other alternatives, construction of a multi-use trail would have a negligible effect on visual resources.

Conclusion. Clearing in densely wooded areas, along with new views of the parkway, Old Agency Road Relocated, and a higher and longer parkway bridge over Old Agency Road from the adjacent Windrush residential subdivision, would be long-term, major impacts. Like the other alternatives, the completion of this section of the parkway motor road would improve the continuity of the visual experience, resulting in a long-term, major benefit.

Recreational Users and Facilities

Analysis. As described for alternative 1, 2, and 3, completing this section of the parkway motor road would improve the continuity of the recreational driving experience for parkway users, a long-term, major beneficial impact.

Providing an access road from the parkway motor road to a visitor parking area adjacent to the Choctaw Agency site would facilitate providing interpretive and educational programs for parkway users and local residents, enhancing the visitor experience. This would be a long-term, moderate beneficial impact.

Cumulative Impacts. As described for alternatives 1, 2, and 3, the construction of a multi-use trail would accommodate nonmotorized recreational use and minimize conflicts between trail users and vehicular traffic on adjacent roadways. The trail could potentially connect with a network of other trails in the area, providing local residents as well as parkway travelers additional recreational opportunities, such as hiking and bicycling. However, under this alternative trail users would have to cross Old Agency Road, which would continue to carry traffic, creating safety concerns. Mitigation measures could include highlighting the crossing area and removing adjacent vegetation to improve visibility. This would reduce the impact from a moderate to a minor beneficial impact over the long term.

Conclusion. As described for alternatives 1, 2, and 3, completing this section of the Natchez Trace Parkway would improve the continuity of the recreational driving experience, a long-term, major beneficial impact. Like alternatives 2 and 3, providing access to and parking at the Choctaw Agency site would make it easier to provide interpretive and educational programs, enhancing the experience of parkway users and local residents, a long-term, moderate beneficial impact. A multi-use recreational trail would provide local residents and parkway users additional recreational opportunities; trail users would have to cross Old Agency Road, which would continue to carry traffic, changing the impact from a moderate to a minor beneficial impact over the long term.

Local Residents

Analysis. Under alternative 4 the following actions could affect local residents: the construction of the parkway motor road, Old Agency Road Relocated, and a parkway bridge over existing Old Agency Road. This alternative would have different impacts because of retaining Old Agency Road and constructing a long parkway bridge over it.

Rural Character — Impacts would be similar to alternative 1 except that maintaining Old Agency Road as a functioning roadway would keep an element of the rural character. Clearing vegetation for the parkway motor road, the bridge over Old Agency Road, and Old Agency Road Relocated, along with introducing urban roadway elements, would have impacts similar to alternatives 1 and 3, but the extent of clearing would be greater because of the length and orientation of the bridge, adversely affecting the rural character. The bridge would be closer to the southern boundary of the Windrush subdivision and could be seen from these residences. Increased roadway activity would be a major change from the present character. These would be long-term, major impacts on seclusion and privacy.

Community Qualities — As described for the other alternatives, there would be no effect on community qualities.

Accessibility — Some access to local attractions requiring travel across the parkway corridor would be retained on existing Old Agency Road. For these trips minimal out-of-direction travel would be required. However, changes to the Dinsmor access road and Brame Road would require travel across the parkway corridor for access to local activities. For example, similar to alternative 2, crossing the corridor from Dinsmor to Richardson Road would require approximately 2.25 kilometers (1.4 mi.) of additional out-of-direction travel (and requiring the use of Highland Colony Parkway). This would be a short-term, minor adverse effect until local users became accustomed to the travel difference.

Also as described for alternative 2, local access to regional attractions from I-55 would be affected because Old Agency Road Relocated would terminate at Highland Colony Parkway, without a direct connection to I-55 (requiring the use of Highland Colony Parkway to the Old Agency Road intersection). This break in direct access to I-55 would be a long-term, moderate effect on regional accessibility.

Cumulative Impacts. As described for alternative 1, a multi-use trail would offer additional recreational opportunities, possibly improving the quality of life for local residents.

Conclusion. Under this alternative vegetation removal associated with construction, the intrusion of urban standard roadways (including a parkway bridge over Old Agency Road), and the proximity of roadways to established residential subdivisions (Windrush and Dinsmor) would create long-term, major impacts on the rural setting, including seclusion and privacy. Recreational opportunities offered by a multi-use trail could improve the quality of life for local residents. Many existing access routes to local destinations across the parkway corridor would be retained, requiring minimal out-of-direction travel. There would be a long-term, moderate adverse impact on local access to regional attractions without direct access to I-55 from Old Agency Road Relocated.

Noise

Analysis. Noise impacts would be the same as alternative 1. Noise levels for alternative 4 are summarized in table 25. Even though Old Agency Road would remain open in this alternative, the distribution of traffic volumes between Old Agency Road, Old Agency Road Relocated, and the parkway motor road would result in the same noise impacts. As in alternative 1, an increase in noise levels would occur throughout the project area, particularly at east Dinsmor and near Brame Road. A maximum increase of 13 dB(A) by 2020 at east Dinsmor and the highest noise level of 61 dB(A) at the Choctaw Agency site would be in compliance with state guidelines and FHWA noise abatement criteria.

TABLE 25: PROJECTED NOISE LEVELS, ALTERNATIVE 4

Residential Area or Site	Noise Abatement Criteria, Leq	Existing Conditions dB(A)	2003 Projection dB(A)	2020 Projection dB(A)
East Windrush	67	47	49	53
West Windrush	67	41	48	52
East Dinsmor	67	42	51	55
West Dinsmor	67	44	50	54
Brame Road	67	37	45	49
Canterbury	67	51	53	55
Greenwood Plantation	67	36	44	47
Choctaw Agency Site	67	53	58	61

As described in alternative 1, construction noise would also occur in the short-term, but is allowed during daytime hours (6 A.M. to 6 P.M.) according to city noise ordinances.

Cumulative Impacts. Cumulative impacts would be the same as alternative 1. Additional construction-related noise could occur due to adjacent parkway projects.

Conclusion. The noise impacts would be the same as alternative 1, even though Old Agency Road would remain open from near Whippoorwill Lane to Highland Colony Parkway. Noise levels would increase throughout the project area with negligible to minor increases in the short term and minor to moderate increases in the long term. The 13 dB(A) increase in long-term noise levels at the east Dinsmor subdivision and the 61 dB(A) noise level at the Choctaw Agency site would not exceed state guidelines or approach the FHWA noise abatement criteria.

Unavoidable Adverse Effects

As described for the other alternatives, the loss of historic access to Greenwood Plantation would be an unavoidable adverse effect.

Approximately 0.7 hectare (1.7 ac.) of riverine and palustrine emergent, scrub/shrub, and forested wetlands would be filled by construction of the parkway motor road and Old Agency Road Relocated. Major long-term adverse impacts would occur in wetland areas 4 and 6, as each wetland area would be reduced in size approximately 35% to 40%, and the remaining wetland sections would be fragmented. Net vegetation losses under alternative 4 would total of 10.7 hectares (26.6 ac.), the most of any alternative.

Because more open fields would be crossed by the parkway motor road, a bridge, and Old Agency Road Relocated, and because more densely wooded areas would be cleared, the adverse impacts on visual resources would be long-term and major. Impacts on the rural setting from vegetative clearing, and the proximity of roadways and a parkway bridge to residential subdivisions, particularly the Windrush subdivision, would be major and long-term effects.

Relationship of Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

The effects of construction on the parkway's natural and cultural resources, visitor services, and the region's socioeconomic environment would be primarily short term and of moderate impact. The effects of revegetation, which would begin immediately following construction, would be clearly visible for one to two years, and wildlife temporarily displaced by construction would be expected to reoccupy parkway lands near the new roadway once construction was completed.

There would be long-term impacts due to the removal of a large portion of the Greenwood Plantation access drive within the NPS right-of-way. Following construction, the National Park Service would continue to manage parkway lands to preserve the natural and cultural resources and to provide visitor experiences and services consistent with resource management needs.

As described for alternatives 2 and 3, there would be short-term traffic disruption during construction. However, the long-term gain would be the construction of the parkway motor road, allowing visitors direct access to cultural resources.

Short-term impacts related to the proposed construction would also include a negligible increase in both employment opportunities for construction workers and in the revenues generated by construction activities for local businesses and government. Over the long term, however, the proposed development would have a negligible impact on the region's socioeconomic environment.

Irreversible and Irretrievable Commitments of Resources

Even though Old Agency Road would remain open to traffic under this alternative, the construction of an elevated parkway overpass would irreversibly intrude on the historical setting of the historic Old Natchez Trace. Constructing the parkway motor road and Old Agency Road Relocated would result in the removal of a large portion of the Greenwood Plantation access drive, irretrievably altering the historic approach to this property.

Approximately 0.7 hectare (1.7 acres) of wetlands would be filled. Net vegetation losses would total 10.7 hectares (26.5 ac.). Wetland and vegetation losses would be considered irretrievable commitments of resources.

Like the other alternatives, this alternative would require minor amounts of fossil fuels, labor, and highway construction materials, such as aggregate and bituminous material. These resources are not in short supply, and their use would not have an adverse effect on continued availability of these resources. The proposed construction would also result in an irreversible commitment or expenditure, of funds.

IMPACTS OF ALTERNATIVE 5 (PROPOSED ACTION)

Transportation/Traffic Impacts

Access

Analysis. Access under alternative 5 would be essentially the same as alternative 1. Closing Old Agency Road from near Whippoorwill Lane to Richardson Road would increase the travel time for local drivers from existing conditions, creating a minor negative impact over the short and long term. As described for alternative 1, access to the other local roads and private drives would be only slightly modified. All current movements and travel routes would continue to be accessible, so the effects on access would be negligible for these roads.

No direct local access to the Natchez Trace Parkway would be provided, in accordance with the legislation establishing the parkway. A benefit of this alternative is the addition of access from the parkway motor road to the Choctaw Agency site (the same as alternatives 2, 3, and 4).

Cumulative Impacts. Ongoing improvements and additions to the parkway motor road both northeast and southwest of the project area would continue to improve interstate recreational travel.

Conclusion. Impacts to access would be minor. While some travel patterns could change, access would be still provided in all travel directions for each local road.

Volumes

Analysis. This alternative would be expected to have a negligible impact on traffic volumes. Through-traffic from Old Agency Road, approximately 3,000 vehicles per day, would be shifted to Old Agency Road Relocated. Some local traffic would remain on Old Agency Road east and west of the closed portion.

Volumes on the parkway motor road would be the same as alternative 1. Approximately 7,200 vehicles per day would use the parkway on opening day. The extent of future volume increases would depend on the development of additional east-west commuter routes in the local vicinity.

Cumulative Impacts. As described for the other alternatives, traffic volumes on the new parkway motor road segment could increase if it was used by commuters. Proposed long-range improvements in the Ridgeland *Transportation Plan Update* include constructing additional, more direct east-west corridors that would alleviate the use of the parkway motor road by commuter traffic.

Conclusion. Volume impacts would be minimal since local road alignments would be relocated, and volumes would be shifted to the new alignments (the same as alternative 1).

Safety

Analysis. As described for alternative 1, impacts to safety would be moderate. Relocating the access points at Dinsmor and Brame Road would mitigate safety issues by improving sight distances and reducing accident potential. Reconfiguring the intersection at Richardson Road and Old Agency Road would reduce vehicular conflicts, also improving safety. The intersection of Old Agency Road and Old Agency Road Relocated should be designed to provide adequate sight distance for all approaches. While Old Agency Road would remain unimproved east of Richardson Road, improvements at the intersection with the relocated roadway should improve overall safety of the road. The National Park Service would work with the city and the state historic preservation officer to improve Old Agency Road east to Highland Colony Parkway, thus enhancing safety on this portion of the roadway.

Cumulative Impacts. As described for the other alternatives, the construction of other east-west connector streets would potentially reduce commuter traffic on the parkway motor road and enhance safety.

Conclusion. Safety would be moderately improved by reconfiguring accesses and constructing new access points that previously had poor sight distances. Portions of Old Agency Road with safety concerns would remain unimproved.

Cultural Resource Impacts

Historic Sites

Analysis. As described for alternatives 1 and 2, closing a 0.7 kilometer (0.4 mi.) portion of Old Agency Road (Old Natchez Trace) from near Whippoorwill Lane to Richardson Road and constructing an approximately at-grade crossing would have a moderate adverse effect on the historic Old Natchez Trace. This would occur as a consequence of the physical disturbance associated with truncating the road segment. The closed road segment would be restored to an appearance approximating what was likely typical during the Trace's early 19th century period of significance, which would have a beneficial effect.

Like the other alternatives, removing most of the Greenwood Plantation access drive within the NPS right-of-way would have a moderate adverse affect on the plantation. The drive is a contributing element of the plantation, and its closure and disturbance would irretrievably alter the historic approach to the property. Photo-documentation would be a possible mitigation to provide an archival record of the drive's current character-defining attributes.

Increased traffic noise could be experienced at Greenwood Plantation as a consequence of the combined effects of vehicles traveling along Brame Road extended and the Natchez Trace Parkway (both would pass within approximately 305 meters [1,000 ft.] of the plantation).

Cumulative Impacts. As described for alternatives 1, 2, and 3, closing and removing a portion of Old Agency Road (Old Natchez Trace) would represent an incremental loss of designed structural features/materials, patterns of transportation use, and character-defining qualities of the road corridor. While sections of Old Agency Road would remain open outside the parkway corridor, the current experience motorists have as they drive along the extended road corridor would be substantially diminished.

Conclusion. As described for alternatives 1 and 2, closing a 0.7 kilometer (0.4 mi.) portion of Old Agency Road (Old Natchez Trace) would cause a moderate adverse impact. Patterns of historic circulation and use, along with character-defining attributes of the road corridor, would be lost. Removing most of the Greenwood Plantation access drive would alter the historic approach to this property. The drive is a cultural landscape feature contributing to the plantation's historical significance, and eliminating its traditional use would have a moderate adverse impact on the property's overall historical integrity.

Archeological Resources.

Analysis. The access road to the Choctaw Agency site and the parking area would be sited to avoid any disturbance to archeological resources. NPS security measures, such as park patrols, surveillance, fencing, and educational outreach programs, would be implemented before interpretive site development and public interpretation were initiated. Providing direct access from the parkway motor road would allow the area to be more easily monitored, a moderate beneficial impact. However, it is possible that the access road would disturb the cultural setting of the area.

Cumulative Impacts. No cumulative impacts on archeological resources were identified.

Conclusion. As described for alternatives 2, 3, and 4, the Choctaw Agency site would be avoided by construction disturbance and would not be affected. The park would undertake appropriate site protection measures to avoid or mitigate potential adverse effects related to public visitation before opening the site to interpretation.

Natural Resources

Air Quality

Analysis. Peak-hour traffic volumes on Old Agency Road between Richardson Road and Highland Colony Parkway under alternative 5 are projected to be 1,125 vehicles in 2003 and 2,100 vehicles in 2020, the same as alternative 1 (see table 26). Based on these volumes and speeds of 40 kph (25 mph), the CO screen determined that the critical distance would be less than 3.1 meters (10 ft.) in 2003 and 5.9 meters (18 ft.) in 2020. National ambient air quality standards would not be exceeded, and air quality impacts would be negligible.

TABLE 26: AIR QUALITY DATA SUMMARY, ALTERNATIVE 5

Year	Average Speed	Design-Hour Traffic Volumes	Critical Distance	Closest Receptor
2003	40 kph (25 mph)	788	<3.1 m (<10 ft.)	Approx. 30.5 m (100 ft.)
2020	40 kph (25 mph)	2,100	5.9 m (18 ft.)	Approx. 30.5 m (100 ft.)

Cumulative Impacts. Traffic volumes on other roadways throughout the study area would continue to increase as population increased. However, the cumulative effects of the combined traffic volumes are not expected to exceed national ambient air quality standards for carbon monoxide.

Conclusion. Alternative 5 would have a negligible impact on air quality over the short and long term. National ambient air quality standards for carbon monoxide would not be exceeded. No mitigation measures would be required with this alternative.

Soils

Analysis. As described for the other alternatives, mitigating measures would be taken where road alignments crossed soils classified as silt loams that have low strength for streets and roads. Soil erosion would result from the clearing of some vegetation from the project area, exposing project soils to erosive water and wind action. Some soils could be enhanced and improved with the removal of roads and the restoration of vegetation. A soil erosion control plan would be prepared and implemented (see page 26).

Long-term and negligible effects on project area soils would include excavation, the mixing of soil horizons, and the addition of aggregate fill and road surface pavement over existing soils. The exact amount of soil that would be excavated is unknown; however, the vegetation impacted by construction under this alternative would total 11.3 hectares (27.8 ac.), indicative of the surface acreage of soils that would be affected.

Cumulative Impacts. No cumulative impacts were identified under this alternative.

Conclusion. Long-term, negligible impacts would occur to project area soils due to excavation. Mitigation efforts would be undertaken to prevent soil erosion and to address the expansive characteristics of local soils (the same as the other alternatives).

Wetlands

Analysis. A total of 0.6 hectare (1.4 ac.) of riverine and palustrine wetlands would be permanently filled by constructing the parkway motor road, Old Agency Road Relocated, and a new access road to Brame Road and Greenwood Plantation from Old Agency Road Relocated. Table 27 identifies the potential adverse or beneficial impacts to wetland areas 1 through 10.

TABLE 27: WETLAND IMPACTS, ALTERNATIVE 5

Wetland	Size of Wetland Affected	Percentage of Wetland Area Affected	Impact Intensity and Direction
1	<0.01 ha (<0.01 ac)	0.3	negligible adverse
2	0	0	no impact
3	0	0	no impact
4 and 6	0.4 ha (1.1 ac)	40	major adverse
5	0	0	minor beneficial
7	0	0	minor beneficial
8	0.1 ha (0.3 ac)	25	major adverse
9	0	0	no impact
10	0	0	no impact

Impacts to wetlands would be the same as alternative 1, except for wetland area 8. Similar to alternative 1, this wetland would be intersected in several locations by the parkway motor road and Old Agency Road Relocated. Approximately 0.1 hectare (0.3 ac.) would be permanently filled, resulting in a 25% loss of the wetland and further fragmentation of wetland plant communities.

Based on the NPS wetland protection guidelines *(DO-69: Wetland Protection)*, a statement of findings would be required to implement this alternative. Suitable wetland restoration areas would need to be identified to provide a 1:1 functional replacement of wetland permanently lost.

Cumulative Impacts. As described for the other alternatives, a section of the parkway motor road adjacent to the project study area on the west would have to be constructed to connect the parkway motor road to the remainder of the Natchez Trace Parkway. An additional 0.6 hectare (1.5 ac.) of wetlands would be permanently filled. The additive effect of the wetland impacts related to alternative 5 and this remaining section to the west would be the long-term loss of 1.2 hectares (3.0 ac.) of wetlands, a major adverse impact.

The development of a multi-use trail in the project area could result in the additional loss of wetland acreage within and adjacent to the project study area.

Conclusion. Similar to alternative 1, approximately 0.6 hectare (1.4 ac.) of wetlands would be permanently filled to construct new roads. Negligible adverse impacts would occur to wetland area 1. Long-term major adverse impacts would occur in wetland areas 4, 6, and 8; each wetland area would be reduced in size by at least 25%, and the remaining wetland sections would be fragmented. No adverse impacts would occur to the remaining wetland areas (2, 3, 5, 7, 9, and 10). Removing portions of Old Agency Road and other access roads could provide opportunities to improve wetland systems in wetland areas 5 and 7.

Developing the remaining sections of the parkway motor road to the west would result in an additional loss of 0.6 hectare (1.5 ac.) and a cumulative wetland impact of 1.2 hectare (3.0 ac.).

Water Quality

Analysis. As described for the other alternatives, potential impacts to water quality from construction of the parkway motor road and Old Agency Road Relocated would occur in the same areas as described under "Wetlands." Constructing the parkway motor road and Old Agency Road Relocated would cause short-term, negligible adverse impacts on the water quality of the small, unnamed tributaries of White Oak Creek and Purple Creek. Mitigating measures would be taken to reduce impacts (see page 26).

Anticipated traffic volumes on the Natchez Trace Parkway and Old Agency Road Relocated would be less than 30,000 vehicles per day. Water quality impacts caused by highway runoff would be long-term, but negligible.

Water runoff from the road surfaces, embankments, and other parkway elements would be directed through culverts and other water drainage structures. The local surface-water drainage patterns would not change, although stormwater discharge could increase. The restoration of Old Agency Road and of access roads within the study area would allow the enhancement or reestablishment of historic drainage patterns.

Conclusion. Short-term and negligible adverse impacts would occur to water quality caused by construction activity releasing soil and debris into unnamed streams. Stormwater discharged into local streams could result in long-term, minor impacts from increased peak flows. The restoration or revegetation of removed and relocated roads could benefit local hydrologic and drainage patterns.

Vegetation

Analysis. Actions in this alternative would be similar to those in alternative 1, but portions of Old Agency Road Relocated and the Brame Road connector would be in different locations, and a new access road and parking lot would be provided to the Choctaw Agency site. Similar to alternative 1, Old Agency Road would be restored to Old Trace appearances. Portions of Brame Road and portions of the access roads to the Dinsmor subdivision and Greenwood Plantation (north of Old Agency Road Relocated) would be obliterated.

Table 28 identifies vegetation impacts and restoration opportunities for alternative 5 by vegetation type. Impact intensities for each vegetation type would be the same as alternative 1; only the number of hectares lost would vary because of some deviations in road locations and the amount of roadway restored. While individually these impacts would be most likely minor to moderate, collectively the loss of 9.1 hectares (22.5 ac.) of vegetation would be moderate to major because it would be permanent, highly noticeable, and substantial within the boundaries of the project area.

TABLE 28: VEGETATION IMPACTS, ALTERNATIVE 5

	[illegible]		Revegetation					
Vegetation Type	New Road		Old Agency Road		Other Roads		Net Loss	
Mixed Hardwood	0.8 ha	(2.0 ac.)	*0*		*0*		0.8 ha	(2.0 ac.)
Pine/Oak	4.2 ha	(10.3 ac.)	*0.1 ha*	*(0.3 ac.)*	*0.5 ha*	*(1.1 ac.)*	3.6 ha	(8.9 ac.)
Late Successional Fields	4.2 ha	(10.2 ac.)	*1.5 ha*	*(3.6 ac.)*	*0.1 ha*	*(0.2 ac.)*	2.6 ha	(6.4 ac.)
Agricultural Fields	2.1 ha	(5.2 ac.)	*0*		*0*		2.1 ha	(5.2 ac.)
Net Total	**11.3 ha**	**(27.8 ac.)**	***1.6 ha***	***(3.9 ac.)***	***0.6 ha***	***(1.3 ac.)***	**9.1 ha**	**(22.5 ac.)**

Note: italicized numbers represent areas restored or replanted with native vegetation.

Mixed-Hardwood Forest — Impacts would be the same as alternative 1; a long-term net loss of 0.8 hectare (2.0 ac.) of mixed-hardwood forest would occur.

Pine/Oak Forest — Long-term net losses of 3.6 hectares (8.9 ac.) of pine/oak forest would be removed, the most of any alternative.

Late Successional Fields — Impacts would be the same as alternative 1; a long-term net loss of 2.6 hectares (6.4 ac.) of late successional fields would occur.

Agricultural Fields — Long-term impacts to agricultural fields would total 2.1 hectares (5.2 ac.).

Cumulative Impacts. Cumulative impacts would be the same as the other alternatives. Additional vegetation losses would occur within the project area because of the multi-use trail and other parkway projects.

Conclusion. The development of new roads would result in the loss of approximately 11.3 hectares (27.8 ac.) of vegetation. The removal of some existing roads, including portions of Old Agency Road, Brame Road, and access roads to the Dinsmor subdivision and Greenwood Plantation, would allow for the restoration or revegetation of approximately 2.2 hectares (5.2 ac.). The long-term impact would be moderate to major within the project area, with a net loss of 9.1 hectares (22.5 ac.) of vegetation. Compared to alternative 1, slightly more pine/oak forest and agricultural fields would be affected. The construction of a multi-use trail within the parkway motor road and other parkway projects to the east and west would cause permanent cumulative losses of vegetation in the local area.

Wildlife

Analysis. As discussed for the other alternatives, the loss of vegetation in this alternative could result in minor wildlife population decreases because of the loss of potential habitat. Other impacts relate to wildlife fragmentation and isolation due to the development of new roadways. Potential long-term losses of wildlife habitat would total 9.1 hectares (22.5 ac.).

Cumulative Impacts. Cumulative impacts would be the same as the other alternatives. Vegetation losses associated with a new multi-use trail could result in some minor losses and fragmentation of wildlife habitat.

Conclusion. Vegetation losses would result in a potential long-term decrease of 9.1 hectares (22.5 ac.) of wildlife habitat and minor impacts on wildlife populations. Local parkway and trail projects could also result in additional long-term and cumulative losses of wildlife habitat.

Threatened or Endangered Species, or Species of Special Concern

Analysis. Impacts would be the same as the other alternatives, and over the short term clearing could result in diminished habitat for any state-listed species occurring in the project area; additional habitat loss and permanent fragmentation could occur when roadways were complete. Impacts would be either minor or negligible.

Cumulative Impacts. No cumulative effects would occur because of the lack of significant habitat for special status species (the same as the other alternatives).

Conclusion. As described for the other alternatives, no federally listed species are found within the project area. Impacts to Mississippi species of special concern would be negligible to minor because of the potential loss of habitat.

Socioeconomic Environment

Land Use

Analysis. *Consistency with Local Comprehensive Plans* — Impacts would be the same as described in alternative 1. The alternative is consistent with Ridgeland's *Comprehensive Plan,* which shows the Natchez Trace Parkway extending from I-55 west to the vicinity of Whippoorwill Lane and Highland Colony Parkway as a major arterial. As described for the other alternatives, providing access to the Choctaw Agency site from the parkway motor road would complement cultural and historic goals and policies in the *Comprehensive Plan.*

Consistency with Local Transportation Plans — Neither the *Jackson Metropolitan Area Transportation Plan* nor Ridgeland's *Transportation Plan Update* would be affected by alternative 5.

Planned Developments — Impacts would be the same as for the other alternatives. Alternative 5 would not have direct impacts on the planned unit residential development at Brame Road and Highland Colony Parkway because the main access would be by way of Highland Colony Parkway to the south. Increased traffic could occur on Highland Colony Parkway. Plans for an elderly care center near the entrance to the Dinsmor subdivision would not be impacted by this alternative.

Cumulative Impacts. No cumulative impacts would result from implementing this alternative.

Conclusion. This alternative would be beneficial in its consistency with the local *Comprehensive Plan* and the *Jackson Metropolitan Area Transportation Plan* and the Ridgeland *Transportation Plan Update.* This alternative would complement the *Comprehensive Plan's* cultural and historic goals by providing access to the Choctaw Agency site from the parkway.

Visual Resources

Analysis. Under alternative 5 the following actions could affect visual resources: the construction of the parkway motor road, Old Agency Road Relocated, a bridge crossing of Old Agency Road Relocated over the parkway, and a connecting road between Brame Road and Old Agency Road Relocated; plus the closure and restoration of Old Agency Road to Old Trace appearances from near Whippoorwill Lane to Richardson Road. The parkway bridge would be located east of Richardson Road, where the parkway motor road would cut through a rise in the topography, so that the bridge deck elevation would be near the existing elevation, allowing for a low-profile bridge to be constructed.

Densely Wooded Areas — There would be a long-term, major adverse visual impact to densely wooded areas in the western and central portions of the corridor due to clearing mature trees for the parkway and Old Agency Road Relocated. This clearing would interrupt the continuity of the wooded areas and the overhead tree canopy by creating a large, open swath through them. There would be a net loss of approximately 4.4 hectares (10.9 ac.) of mixed-hardwood and pine/oak forest. Efforts would be made during construction to avoid excessive clearing. Revegetation would occur at some construction areas where trees were removed and where there were cut and fill slopes.

Open Fields — Due to construction, there would be a long-term major impact to the intermingled late successional and agricultural fields within the central and eastern portions of the parkway corridor. A large, open swath would be cut for the parkway, Old Agency Road Relocated, and the connecting road between Brame Road and Old Agency Road Relocated.

A net total of approximately 4.7 hectares (11.6 ac.) of open fields would be impacted. Revegetation of open field areas would be inconsistent with their existing visual character. The contrast to the densely wooded areas provided by open fields would be permanently lost.

Views of the Parkway — Because of vegetative clearing, the parkway and a portion of Old Agency Road Relocated would be visible from adjacent residential subdivisions. On the north side views from seven residences in the Windrush subdivision and from four residences in the Canterbury subdivision would be affected. On the south views from nine residences in the Dinsmor subdivision and Greenwood Plantation would be affected. Revegetation of disturbed areas would screen some views, resulting in short-term, moderate visual impacts.

Where it passed under Old Agency Road Relocated, the parkway would be in a 3.9 to 4.6 meter (12 to 14 ft.) deep road cut in an area of rising ground elevation. The bridge would be placed on low earthen fill, approximately 2 meter (6 ft.) above existing ground elevation. Revegetation in these areas would screen views of the low bridge and embankments. The overall visual effect would be a short-term, moderate impact.

Visual Experience — As described for the other alternatives, the visual experience of users would be changed. Views of historic and cultural sites, glimpses through dense woods to open fields, and the contrast of shaded and open sunlit areas would be affected. The loss of these views would be a long-term, major impact. The continuity of the visual experience along the length of the parkway would be enhanced with consistent designs and use of materials and details, resulting in a long-term, major benefit.

Cumulative Impacts. As described for the other alternatives, a multi-use trail would have a negligible effect on visual resources.

Conclusion. Similar to the other alternatives, under alternative 5 there would be long-term, major adverse visual impacts as a result of clearing in densely wooded areas, clearing open field areas, and changing the visual experience of users of local roads. Clearing in densely wooded areas and views of the parkway and Old Agency Road Relocated from adjacent residential subdivisions, St. Andrew's School, and Greenwood Plantation would be short-term, moderate impacts pending the revegetation of disturbed areas. The low-profile crossing of Old Agency Road Relocated over the parkway would interrupt the visual continuity of the parkway experience. Like the other alternatives, the completion of this section of the parkway motor road would improve the continuity of the viewer experience, resulting in a long-term, major benefit.

Recreational Users and Facilities

Analysis. As described for the other alternatives, completing this section of the parkway motor road would improve the continuity of the driving experience along the Natchez Trace Parkway, a long-term, major beneficial impact.

Like alternatives 2, 3, and 4, an access road would be provided from the parkway motor road to a visitor parking area adjacent to the Choctaw Agency site. This would make it easier to offer interpretive and educational programs at the site, a long-term, moderate beneficial impact.

Cumulative Impacts. As described for the other alternatives, the construction of a multi-use recreational trail would accommodate nonmotorized recreational use and minimize conflicts between trail users and vehicular traffic on adjacent roadways. The trail could potentially connect with a network of other trails in the area, providing local residents as well as parkway travelers additional recreational opportunities, such as hiking and bicycling. This would provide a long-term, moderate beneficial impact.

Conclusion. As described for the other alternatives, completing this section of the Natchez Trace Parkway would improve the continuity of the recreational driving experience, a long-term, major beneficial impact. As described for alternatives 2, 3, and 4, providing access to and parking at the Choctaw Agency site would make it easier to offer interpretive and educational programs, enhancing opportunities for parkway users and local residents, a long-term, moderate beneficial impact. Like alternatives 2 and 3, a multi-use recreational trail would provide local residents as well as parkway users additional recreational opportunities, a long-term, moderate beneficial impact.

Local Residents

Analysis. Under alternative 5 the following actions could affect local residents: the construction of the parkway motor road, Old Agency Road Relocated, a bridge crossing by Old Agency Road Relocated over the parkway motor road, and a connecting road between Brame Road and Old Agency Road Relocated; plus the closure and restoration of Old Agency Road to Old Trace appearances between Whippoorwill Lane and Richardson Road. As a result, this alternative would have impacts similar to alternative 1.

Rural Character — As described for alternative 1, clearing mature trees and understory vegetation to construct both the parkway and Old Agency Road Relocated could affect the rural and secluded character so desired by local residents. This clearing, combined with the proximity of Old Agency Road Relocated to the northern edge of the Dinsmor subdivision, would affect about 12 homes and the character of the entry to the subdivision for all residents. Some disturbed areas would be revegetated. Excessive clearing would be limited. This loss of mature vegetation would be a short-term, moderate loss of seclusion and privacy.

However, under this alternative the parkway motor road would be cut into a rise in the topography, allowing an approximately at-grade crossing by Old Agency Road Relocated over the parkway and substantially reducing the extent of intrusion on the privacy of adjacent residential subdivisions compared to the bridge proposed under alternative 4. Embankments would be revegetated to mitigate the extent of tree clearance. This would be a short-term, minor adverse impact.

Community Qualities — As described for the other alternatives, there would be no effect on community qualities under this alternative.

Accessibility — Approximately 0.3 kilometer (0.2 mi.) of additional out-of-direction travel would be required between Dinsmor subdivision and Richardson Road for access to local activities. This impact would be short-term and minor until local travelers became accustomed to the differences. Impacts on access to Greenwood Plantation and uses along Brame Road would be similar to alternative 1. Access to regional attractions would not be affected.

Cumulative Impacts. As described for the other alternatives, a multi-use trail would offer additional recreational opportunities, possibly improving the quality of life for local residents.

Conclusion. Similar to alternative 1, actions under this alternative would lead to short-term, adverse impacts on local residents. Impacts would include the introduction of urban standard roadways (the parkway motor road, Old Agency Road Relocated, and the Brame Road connection) with wide cleared areas. A multi-use trail could improve the quality of life for local residents. The amount of out-of-direction travel for local access would be a short-term, minor impact until local travelers became accustomed to the differences. Access to regional attractions would not be affected.

Noise

Analysis. Noise impacts would be the same as alternative 1. Shifts in traffic volumes with the partial closure of Old Agency Road and the development of Old Agency Road Relocated would be similar to alternative 1, resulting in similar traffic-related noise impacts. Even though the parkway motor road would cross under Old Agency Road Relocated in a 3.9 to 4.6 meter (12 to 14 ft.) depression, the effects on noise are expected to be minimal.

As described for alternative 1 and presented in table 29, negligible to minor increases in noise levels would occur in the short-term (2–9dB(A)); minor to moderate increases would occur in the long-term (4–13 dB(A)). The smallest increases would occur in vicinity of the Choctaw Agency site, the Canterbury subdivision, and the east Windrush subdivision because of the high volume of traffic noise that currently occurs in these areas. The largest increases would be at the Dinsmor and west Windrush subdivisions, along Brame Road, and at Greenwood Plantation because of the proximity of both the parkway motor road and Old Agency Road Relocated. By 2020 increased traffic volumes on these two roads would result in a potential 10–13 dB(A) increase in noise levels, which would not exceed state guidelines. Similarly, the highest noise level of 61 dB(A) at the Choctaw Agency site would be below FHWA noise abatement criteria (67 dB(A)).

TABLE 29: PROJECTED NOISE LEVELS, ALTERNATIVE 5

Residential Area or Site	Noise Abatement Criteria (Leq)	Existing Conditions (dB(A))	2003 Projection (dB(A))	2020 Projection dB(A))
East Windrush	67	47	49	53
West Windrush	67	41	48	52
East Dinsmor	67	42	51	55
West Dinsmor	67	44	50	54
Brame Road	67	37	45	49
Canterbury	67	51	53	55
Greenwood Plantation	67	36	44	47
Choctaw Agency Site	67	53	58	61

Cumulative Impacts. Cumulative impacts would be the same as alternative 1. Additional noise could occur due the construction of adjacent parkway projects.

Conclusion. Noise impacts would be essentially the same as alternative 1. Noise levels would increase at adjacent residential areas and local sites. These increases would be negligible to minor in the short term and minor to moderate in the long term. By 2020 a 13 dB(A) increase in noise levels would result in the east Dinsmor subdivision. The highest noise level of 61 dB(A) would occur at the Choctaw Agency site. The increase in noise levels would not exceed the state guidelines, and all noise levels would be less than the FHWA noise abatement criteria for residential and park areas (67 dB(A)).

Unavoidable Adverse Effects

As described for alternatives 1 and 2, there would be long-term, moderate adverse impacts to a 0.7 kilometer (0.4 mi.) length of Old Natchez Trace (Old Agency Road) that would be restored to Old Trace appearances. The loss of the historic access to Greenwood Plantation would be an unavoidable adverse effect.

Approximately 0.6 hectare (1.4 acre) of wetlands would be permanently filled to construct new roads. Long-term, major adverse impacts would occur in wetland areas 4, 6, and 8; each wetland area would be reduced in size by at least 25%, and the remaining wetland sections would be fragmented. A net total of 9.1 hectares (22.5 ac.) of vegetation would be impacted under this alternative.

Where the parkway corridor traversed existing open fields and where the clearance in densely wooded areas was extensive, the adverse impacts to the visual character of the area would be long term and major. Where revegetation of disturbed areas could not screen views of the parkway motor road, the relocated Old Agency Road bridge, and Old Agency Road Relocated, the adverse visual impacts would be long term and major. Actions under alternative 5 would lead to short-term, moderate adverse impacts on the existing character, including vegetation clearance and the intrusion of nonrural roadways and a bridge into the rural setting.

Relationship of Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

The effects of construction on the parkway's natural and cultural resources, visitor services, and the region's socioeconomic environment would be primarily short term and of moderate impact. The effects of revegetation, which would begin immediately following construction, would be clearly visible for one to two years, and wildlife temporarily displaced by construction would be expected to reoccupy parkway lands near the new roadway once construction was completed.

There would be some long-term, permanent impacts to a 0.7 kilometer (0.4 mi.) portion of Old Agency Road (Old Natchez Trace), which would be closed and restored to Old Trace appearances, and the Greenwood Plantation access drive, which would be closed and revegetated. Following construction, the National Park Service would continue to manage parkway lands to preserve natural and cultural resources and to provide visitor experiences and services consistent with resource management needs.

There would be short-term traffic disruption during construction. However, the long-term gain would be the construction of the parkway motor road, allowing visitors direct access to cultural resources.

Short-term impacts related to the proposed construction would also include negligible increases in both employment opportunities for construction workers and in the revenues generated by construction activities for local businesses and government. Over the long term, however, the proposed development would have a negligible impact on the region's socioeconomic environment.

Irreversible and Irretrievable Commitments of Resources

Alternative 5 would cause irreversible moderate adverse impacts to a 0.7 kilometer (0.4 mi.) portion of Old Natchez Trace (Old Agency Road). Patterns of circulation and use, along with character-defining attributes of the road corridor, would be lost. The removal of most of the Greenwood Plantation access drive would irretrievably alter the historic approach to this property. The drive is a cultural landscape feature that contributes to the plantation's historical significance, and eliminating its traditional use would have a moderate adverse impact on the property's overall historical integrity.

Under this alternative 0.6 hectare (1.4 ac.) of wetlands would be permanently filled to construct new roads, and approximately 9.1 hectares (22.5 ac.) of vegetation would be lost. Vegetation and wetland losses would be considered irretrievable commitments of resources.

Like the other alternatives, this alternative would require minor amounts of fossil fuels, labor, and highway construction materials, such as aggregate and bituminous material. These resources are not in short supply, and their use would not have an adverse effect on continued availability of these resources. The proposed construction would also result in an irreversible commitment or expenditure, of funds.

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COMPLIANCE WITH FEDERAL AND STATE LAWS, EXECUTIVE ORDERS, AND REGULATIONS

This *Draft Supplemental Environmental Impact Statement* for section 3P13 of the Natchez Trace Parkway discloses the planning and decision-making process and potential environmental consequences of the alternatives proposed. The environmental analysis was prepared in accordance with the Council on Environmental Quality's regulations pertaining to implementing the provisions of the National Environmental Policy Act (NEPA). These regulations are contained at 40 CFR 1500 et seq.; additional regulations are contained in part 516 of the U.S. Department of the Interior's *Departmental Manual.*

This document will be on public review for 60 days. A final or abbreviated environmental impact statement will be prepared to respond to or incorporate public comments on the draft document. The final statement will be distributed, and after a 30-day no-action period, a record of decision will be prepared to document the selected alternative and set forth any stipulations for implementing this construction plan, thus completing the NEPA process.

GENERAL LEGISLATION AND REGULATIONS

Executive Order 12898 — "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." Under a policy established by the secretary of the interior to comply with this executive order, departmental agencies should identify and evaluate, during the scoping and/or planning processes, any anticipated direct or indirect effects on minority and low-income populations and communities, including the equity of the distribution of the benefits and risks. No such impacts were identified.

Architectural Barriers Act of 1968 (42 USC 4151 et seq.); Rehabilitation Act of 1973 (29 USC 701 et seq.); and the Americans with Disabilities Act of 1990 (PL 101-336, 104 Stat. 327). These acts require that all facilities and programs be made as accessible as possible to disabled visitors. Because the development of this parkway motor road and Old Agency Road have no components that would not be accessible, construction would be in compliance with these acts.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1986, under the Superfund Amendment Reauthorization Act (SARA). Section 120 of this act specifies that CERCLA is applicable to federal facilities. No known hazardous or toxic contaminants would be disturbed under any of the proposed alternatives for constructing the parkway terminus.

CULTURAL RESOURCES

The National Park Service is mandated to preserve and protect its cultural resources under the Organic Act of 1916 (16 USC 1) and such specific legislation as the Antiquities Act of 1906 (16 USC 431), the National Historic Preservation Act of 1966, as amended (16 USC 470), the National Environmental Policy Act of 1969, as amended (42 USC 4321, 4331, 74332), the Archeological Resources Protection Act of 1979 (16 USC 470), and the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001). In addition, the management of cultural resources would be guided by the Advisory Council on Historic Preservation's implementing regulations regarding "Protection of Historic Properties" (36 CFR 800), the "Secretary of the Interior's Standards and

Guidelines for Archeology and Historic Preservation" (48 FR 48:44716–40), NPS *Management Policies* (chapter 5), and the *DO-28: Cultural Resources Management Guideline*.

As part of its cultural resource management responsibilities, the National Park Service strives to identify and evaluate the significance of all cultural resources on lands under its jurisdiction. Section 110 of the National Historic Preservation Act requires that historic properties be identified and evaluated for their eligibility for listing on the National Register of Historic Places. Section 110 also stipulates that historic properties be managed in a way that preserves and protects their values, especially nationally significant values. Cultural resources under NPS jurisdiction, as well as those not under the jurisdiction of the Natchez Trace Parkway but that could be affected by actions outlined in this plan, were considered during this planning process.

Section 106 of the National Historic Preservation Act requires that federal agencies having direct or indirect jurisdiction over undertakings consider the effect of those undertakings on resources either listed on or eligible for listing on the National Register of Historic Places, and it affords the Advisory Council on Historic Preservation and the state historic preservation officer, tribal representatives, and other concerned parties the opportunity to comment. The National Park Service will continue to work with the aforementioned entities to meet the requirements of section 106. The Mississippi state historic preservation officer and the Advisory Council on Historic Preservation were invited to participate during the planning process, and each will also have an opportunity to review and comment on the draft document.

The National Park Service will consult with affiliated Native American tribes, as required by the above laws and regulations, and will develop and accomplish its programs in a way that respects the beliefs, traditions, and other cultural values of the Native American tribes who have ancestral ties to the lands that the Natchez Trace Parkway traverses. The National Park Service will also comply with the provisions of the Native American Graves Protection and Repatriation Act, which require specific actions when Native American human remains, funerary objects, sacred objects, or objects of cultural patrimony are excavated or discovered on federal lands.

NATURAL RESOURCES

National Environmental Policy Act of 1969. This act sets forth the federal policy to preserve important historic, cultural, and natural aspects for our national heritage. It requires federal agencies to use a systematic, interdisciplinary approach that integrates natural and social sciences in planning and making decisions about actions that may impact the human environment. This *Draft Supplemental Environmental Impact Statement* was prepared pursuant to this act and its implementing regulations and guidelines. Implementing this plan would require ongoing compliance with the National Environmental Policy Act.

Analysis of Impacts on Prime and Unique Agricultural lands in Implementing the National Environmental Policy Act (45 FR 59189). Road construction activities — such as clearing, grading, filling, and removing soils; creating embankments; constructing bridges and new roads — would cause farmlands to be permanently removed from production. NPS *Management Policies* and guidelines require that impacts on prime and unique farmlands be examined.

Additionally, the Farmland Protection Policy Act, which was passed as part of the 1981 federal bill and became effective on August 6, 1984, requires all federal agencies to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It also ensures that federal programs are administered in a manner that, to the extent practicable, is compatible with state and local government and private programs and policies protecting farmland. Prime farmlands are defined as those lands whose value derives from their general advantage as cropland due to soil and water conditions and that produce general crops such as common foods, forage, fiber, and oil seed. Unique farmlands are defined as those whose value derives from their particular advantage for growing specialty crops, such as fruits, vegetables, and nuts.

After consulting with the U.S. Department of Agriculture's Natural Resources Conservation Service, the National Park Service concluded that there would be no effect on prime or unique farmlands, or on farmlands of state importance.

Clean Air Act, As Amended (42 USC 7401et seq.). The Natchez Trace Parkway is designated a class II clean air area. Maximum allowable increases of sulfur dioxide, particulate matter, and nitrogen oxides beyond baseline concentrations established for class II areas cannot be exceeded. Section 118 of the Clean Air Act also requires all federal facilities to comply with federal, state, and local air pollution control laws and regulations. Parkway staff would coordinate with the Mississippi Department of Environmental Quality, Office of Pollution Control, to ensure that all project activities meet the requirements of the state air quality implementation plan.

Endangered Species Act of 1973, As Amended (16 USC 1531 et seq.). Section 7 of the Endangered Species Act requires all federal agencies to consult with the U.S. Fish and Wildlife Service to ensure that an action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitat. As required by NPS *Management Policies*, the National Park Service also consulted with the Mississippi Department of Wildlife, Fisheries, and Parks to ensure that state-listed species of concern within the Natchez Trace Parkway would be protected.

Based on information furnished by the U.S. Fish and Wildlife Service and the Mississippi Department of Wildlife, Fisheries, and Parks, the National Park Service has determined that the proposed actions would have no effect on either endangered or threatened species or species of concern, or to the critical habitat of such species within the project area.

Section 404 of the Clean Water Act (33 USC 1344) and Section 10 of the Rivers and Harbors Act of 1899 (33 USC 401 et seq.). The U.S. Army Corps of Engineers issues permits for work affecting navigable waters and wetlands of the United States. Section 404 of the Clean Water Act regulates the discharge of dredged material into U.S. waters, including both navigable waters and adjacent wetlands. Section 10 of the Rivers and Harbors Act regulates activities in or affecting navigable waters.

NPS *Management Policies* require the National Park Service to examine impacts on water resources, specifically impacts on the preservation, use, and quality of water originating, flowing through, or adjacent to park boundaries. The National Park Service seeks to restore, maintain, and enhance the quality of water resources; and to prevent, control, and abate water pollution.

Under the 1987 amendments to the Clean Water Act, a new stormwater rule was issued to regulate stormwater discharges. The Storm Water Rule (40 CFR Parts 122, 123, 124) requires that a national pollution discharge elimination system (NPDES) stormwater permit be obtained for construction activities affecting more than 5 acres. The state of Mississippi, which was granted authority to administer NPDES permits by the Environmental Protection Agency, administers the stormwater permitting program.

Soils in the project area are highly erodible; when they are disturbed, they contribute to sediment loading in waterways. Before construction begins, a soil erosion and sedimentation control plan would be prepared, including detailed maps, soils surveys, descriptions of the proposed earth changes, descriptions and locations of all proposed temporary and permanent soil erosion control measures, and a proposal for the continued maintenance of all permanent soil erosion control facilities. The soil erosion and sedimentation control plan would be submitted to the Mississippi Department of Environmental Quality to satisfy the state's requirements for an NPDES permit for stormwater discharge.

Executive Order 11988, "Floodplain Management." Executive Order 11988 requires all federal agencies to avoid construction within the 100-year floodplain unless no other practical alternative exists. The 100-year floodplain of Purple Creek extends minimally into the project area; however, no construction impacts are anticipated under any alternative.

Executive Order 11990, "Protection of Wetlands." Executive Order 11990 requires all federal agencies to avoid, wherever possible, impacts on wetlands. A statement of findings will be prepared to identify mitigating actions in accordance with NPS guidelines and policy. Affected wetlands would be replaced at a minimum of 1:1 ratio (replacement to impact).

Executive Order 11987, "Exotic Organisms." Executive Order 11987 requires federal agencies to restrict the introduction of exotic species into the natural ecosystems on lands and waters that they own, lease, or hold for purposes of administration, or into any natural ecosystem of the United States. The order also encourages states, local governments, and private citizens not to introduce exotics into U.S. natural ecosystems.

CONSULTATION AND COORDINATION

The guidelines for preparing an environmental impact statement emphasize cooperative consultation and the early and continued involvement of people who may be either interested in or affected by the project. This section documents the specific elements of the public involvement program.

During scoping for the Natchez Trace Parkway section 3P13 project, a series of public involvement activities were conducted, including public notification of the project, individual meetings, public open house meetings, and project newsletters. The purpose of these activities was to solicit public input for the identification of transportation issues to be addressed in the project, and to define and screen potential parkway alternatives for inclusion in this *Draft Supplemental Environmental Impact Statement*.

PUBLIC NOTIFICATION OF THE PROJECT

On August 3, 1998, a notice of intent to prepare a draft supplemental environmental impact statement was published in the *Federal Register*. In addition, the National Park Service sent a letter to 399 potentially interested individuals and agencies announcing the decision to prepare the document and inviting their attendance at the public scoping meeting; the list was compiled from NPS records. A press release with the same information was also issued to 149 newspapers, radio and television stations, and representatives of local governments and community organizations. On August 20, 1998, the National Park Service issued a follow-up news release with additional information and a reminder invitation to the public scoping meeting.

On August 24–26, 1998, a legal notice was published in the *Clarion Ledger* (Jackson, Mississippi) announcing the purpose, date, and location of the public scoping meeting.

On August 25, 1998, an amendment of notice of intent to prepare the impact statement was published in the *Federal Register* clarifying the geographic scope of the document.

PUBLIC INVOLVEMENT

Individual Group Meetings

Approximately one month before the first public open house meeting, NPS staff met individually with adjacent homeowner groups to encourage their attendance and participation at the meeting. In addition, the history of the project and the status of the most recent planning were presented. Meetings were held with the Dinsmor, Windrush, and Canterbury homeowner groups. A meeting was also held with staff at St. Andrew's School.

Public Scoping Meeting

The purpose of the first public meeting, held on August 27, 1998, was to identify public and agency issues and concerns to be addressed in the project. The meeting at Olde Towne Middle School in Ridgeland, Mississippi, 4:30–7:30 P.M. was an open house, with NPS and Federal Highway Administration (FHWA) staff available to answer questions and to assist attendees in identifying and recording their most critical transportation issues and concerns. Issues and concerns were solicited about city street access/circulation, aesthetics and parkway design, cultural resources/historic preservation, safety/multi-use trail, and community impacts. Handout materials described the planning process and the role of the public scoping meeting.

A total of 139 people attended the meeting; 332 written and oral comments were received and recorded at the meeting on large newsprint pads, comment forms, in letters and resolutions, and in statements to a stenographer. In addition, the National Park Service received additional comments through the public comment period, which closed on October 2, 1998.

Meeting attendees voiced their satisfaction and support for the NPS decision to proceed with the preparation of a supplemental environmental impact statement as a means to decide on the parkway alternative to be constructed at Old Agency Road. The following issues were identified:

Future east/west travel demand in the corridor:
    Accommodate increased demand from development planned to the west of Ridgeland.
    Facilitate access to Highland Colony Parkway and I-55.
    Preclude use of the Natchez Trace Parkway for local and commuter travel.

Local safety conditions:
    Provide adequate roadway design for projected needs and users.
    Provide separate pedestrian and bicycle facilities.

Maintain Local Accessibility:
    Minimize nonlocal traffic on local streets.
    Minimize out-of-direction travel for local access.
    Facilitate access between neighborhoods and local destinations.

History and Aesthetics of the Area:
    Maintain opportunities for scenic driving.
    Preserve the history of the Natchez Trace in the area.
    Preserve existing trees and vegetation in the area.

Community Values:
    Minimize noise impacts and privacy intrusions.
    Minimize effects to air quality.
    Preserve the rural atmosphere of the setting.
    Protect the quality of existing views from neighborhoods.
    Provide opportunities for accommodating need for local parks.

Design of Natchez Trace Parkway facilities:
    Minimize the taking of existing trees and vegetation.
    Provide extensive landscape buffer planting.
    Utilize natural appearing materials.
    Locate facilities to minimize impacts and take advantage of natural features.
    Develop a multi-use trail connecting historic sites.

Facilities:
    Provide Natchez Trace facilities within reasonable costs.

Project consistency:
    Develop project consistent with recent Natchez Trace planning decisions.

Strong differences of opinion emerged between the adjacent neighborhoods and the historic preservation special interests regarding acceptable effects of parkway construction at Old Agency Road.

Alternatives Open House Meeting

The second public open house meeting provided the public and interested agencies with information on parkway design and engineering capabilities, and an opportunity to comment on the conceptual parkway alternatives that had been developed in response to the issues identified at the public scoping meeting. It was anticipated that additional alternatives might be developed from public comments received at the meeting.

The meeting was held on November 5, 1998, at the Olde Towne Middle School in Ridgeland, Mississippi, 4:30–7:30 P.M. Again, an open house meeting format was used, with NPS and FHWA staff available to answer questions and assist meeting attendees. A total of 55 people attended.

At the meeting 16 conceptual alternatives (A–P) were presented for public review and comment. Oral and written comments were recorded during the meeting on large newsprint pads and comment forms. Several core issues were raised repeatedly during the meeting that pertained to more than one alternative. These included the following:

- Leave Old Agency Road as is.
- Construct Old Agency Road Relocated.
- Plant a vegetative buffer now.

Meeting attendees indicated their preference for several of the alternatives presented. These included:

1. Conceptual alternative A — Old Agency Road would be closed between near Whippoorwill Lane and Richardson Road. The parkway would cross the closed Old Agency Road at-grade and bridge over Old Agency Road Relocated. (This was also the original preferred alternative presented in the 1978 *Environmental Impact Statement;* it is presented as alternative 1 in this *Draft Supplemental Environmental Impact Statement.)*

2. Conceptual alternative B — Old Agency Road would be closed between near Whippoorwill Lane and Richardson Road. The parkway would cross the closed Old Agency Road at-grade, but it would not cross Old Agency Road Relocated. (Presented as alternative 2 in this document.)

3. Conceptual alternative G — Old Agency Road would be closed between near Whippoorwill Lane and Highland Colony Parkway. The parkway would cross the closed Old Agency Road at-grade and bridge over an extension of Richardson Road. (Presented as alternative 3 in this document.)

4. Conceptual alternative L — Old Agency Road would remain open, and the parkway would bridge over it. (Presented to as alternative 4 in this document.)

After the meeting, the National Park Service developed a fifth alternative, based upon an analysis of additional traffic safety information. This alternative is a modification of conceptual alternative A. It was felt that this alternative provided additional safety benefits in response to public comments at the public scoping meeting. This alternative is presented as alternative 5 in this document and is the proposed action).

Project Newsletters

The National Park Service prepared three project newsletters to update interested individuals and agencies on the project. The newsletters were sent to each of the 399 names on the project mailing list. Copies of the newsletters may be obtained from the Natchez Trace Parkway headquarters.

The first newsletter, distributed on February 27, 1998, summarized the issues identified at the public scoping meeting and outlined the upcoming alternatives public open house.

The second newsletter, distributed on January 28, 1999, summarized the alternatives developed at the public open house and identified the roadway alternatives selected for detailed analysis in the *Draft Supplemental Environmental Impact Statement.* In addition, subsequent steps in the planning process were described.

A third newsletter was distributed on October 1, 1999. It presented the recently developed fifth alternative for the parkway and Old Agency Road, and it provided a matrix of its actions compared to the previous four alternatives.

Future Public Involvement and Information Activities

After the availability of the *Draft Supplemental Environmental Impact Statement* has been announced in the *Federal Register,* the document will be available for a 60-day public comment period. A public hearing/open house will be conducted. A notification letter will also be sent to each of the names on the project mailing list, and a legal notice will be printed in selected local newspapers in Madison and Hinds Counties. Additional project newsletters are planned for the remainder of the planning process.

LIST OF AGENCIES AND ORGANIZATIONS TO WHOM COPIES OF THIS DOCUMENT WILL BE SENT

Congressional Representatives
Senator Thad Cochran — Jackson, MS
Senator Trent Lott — Jackson, MS
Congressman Ronnie Shows — Jackson, MS
Congressman Tim Ford — Jackson, MS
Congressman Chip Pickering — Pearl, MS
Congressman Bennie Thompson — Bolton, MS
Congressman Roger Wicker — Tupelo, MS

Federal Agencies and Organizations
Advisory Council on Historic Preservation — Washington, DC
Department of Agriculture
    Natural Resources Conservation Service — Jackson, MS; Monroe, LA; Port Gibson, MS
Department of Defense
    U.S. Army Corps of Engineers — Vicksburg District Office, Vicksburg, MS
Department of the Interior

- Bureau of Indian Affairs — Washington, DC
- National Park Service
  - Natchez National Historical Park — Natchez, MS
  - Vicksburg National Military Park — Vicksburg, MS
- U.S. Fish and Wildlife Service — Atlanta, GA; Jackson, MS; Vicksburg, MS
- U.S. Geological Survey — Reston, VA

Department of Transportation
- Federal Highway Administration — Sterling, VA; Ridgeland, MS; Jackson, MS

Environmental Protection Agency — Region IV, Atlanta, GA

State Agencies and Organizations
Central Mississippi Planning and Development
Mississippi Department of Archives and History
Mississippi Department of Economic and Community Development
Mississippi Department of Transportation
Mississippi Department of Wildlife, Fisheries, and Parks
Mississippi Office of Pollution Control
Mississippi Soil and Water Conservation
Mississippi Visitor Welcome Center
Mississippi Department of Environmental Quality — Jackson, MS
Craftsmen's Guild of Mississippi — Jackson, MS
Pearl River Valley Water Management District — Ridgeland, MS
Mississippi Crafts Center
Mississippi State Society for the Daughters of the American Revolution — Madison, MS

City, County, and Local Governments and Organizations
Mayor of Madison, MS
Mayor of Clinton, MS
Mayor of Ridgeland, MS
Mayor of Jackson, MS
Madison County Administrator, Madison, MS
Hinds County Administrator, Hinds, MS
Madison County Board of Supervisors, Madison, MS
Hinds County Board of Supervisors, Hinds, MS
The Nature Conservancy, Jackson, MS
SCORP Project Director, Jackson, MS
Natchez Trace Trail Conference, Inc., Jackson, MS
Hinds County Road Management, Raymond, MS
Natchez Trace Parkway Association, Belmont, MS

Libraries
Jackson/Hinds Library System, Eudora Welty Library, Jackson, MS
Ridgeland Public Library, Ridgeland, MS

Academic Institutions
St. Andrew's Episcopal School, Ridgeland, MS
Jackson State University, Jackson, MS

Media — Newspapers, TV and Radio Stations
Clarion Ledger, Jackson, MS

Northside Sun, Jackson, MS
Madison County Journal, Madison, MS
Madison County Herald, Madison, MS
Northeast MS Daily Journal, Tupelo, MS
Clinton News, Clinton, MS
WJTV, Jackson, MS
WLBT-TV, Jackson, MS

APPENDIX A: NATCHEZ TRACE VEGETATION

Plant Species List 1993

Type / Common Name	Scientific Name
Trees	
Red maple	*Acer rubrum*
Ironwood	*Carpinus caroliniana*
Bitternut hickory	*Carya cordiformis*
Sugarberry	*Celtis laevigata*
Red bud	*Cercis canadensis*
Flowering dogwood	*Cornus florida*
Persimmon	*Diospyros virginiana*
Green ash	*Fraxinus pennsylvanica*
Eastern red cedar	*Juniperus virginiana*
Tulip tree	*Liriodendron tulipifera*
Sweet gum	*Liquidambar styraciflua*
Osage orange	*Maclura pomifera*
Sycamore	*Platanus occidentailis*
Black cherry	*Prunus serotina*
Cherrybark oak	*Quercus falcata* var.,*pagodaefolia*
Water oak	*Quercus nigra*
Diamondleaf oak	*Quercus obtusa*
Oak	*Quercus* sp.
Post oak	*Quercus stellata*
Black willow	*Salix nigra*
Chinese tallow tree	*Sapium sebiferum*
Sassafras	*Sassafras albidum*
Winged elm	*Ulmus alata*
American elm	*Ulmus americana*
Shrubs	
Switch cane	*Arundinaria gigantea*
Silverling	*Baccharis halimifolia*
French mulberry	*Callicarpa americana*
Button bush	*Cephalanthus occidentalis*
Parsley hawthorn	*Crataequs marshallii*
Possumhaw/deciduous holly	*Ilex decidua*
Chinese privet	*Liqustrum sinense*
Smooth sumac	*Rhus glabra*
Elderberry	*Sambucus canadensis*
Sebastian-bush	*Sebastiania liqustrina*
Rusty bluehaw	*Viburnum rufibulum*
Vines	
Cross vine	*Anisostichus capreolata*
Rattan vine	*Berchemia scandens*
Trumpet creeper	*Campsis radicans*
Carolina moonseed	*Cocculus carolinus*
Japanese honeysuckle	*Lonicera japonica*
Poison ivy	*Rhus radicans*
Greenbrier	*Smilax rotundifollia*
Catbrier	*Smilax bona-nox*
Climbing-dogbane	*Trachelospermum difforme*
Summer grape	*Vitis aestivallis*
Plants	
Three-seeded mercury	*Acalypha rhomboidea*
False garlic	*Allium bivalve*
Ragweed	*Ambrosia* spp.
Ebony fern sleenwort	*Asplenium platyneuron*
Ebony spleenwort	*Asplenium shizophyllum*
Aster	*Aster* sp.
False nettle	*Boehmeria cylindrica*
Spiny thistle	*Carduus spinosissimus*

Type / Common Name	Scientific Name
Plants (cont.)	
Rattlebox	*Crotalaria spectabilis*
Beggarlice	*Desmodium Paniculatum*
Dichondra	*Dichondra carolinensis*
Elephant's-foot	*Elephantopus carolinianus*
Thoroughwort	*Eupatorium* sp.
Cypress-weed	*Eupatorium capillifolium*
Wild strawberry	*Fragaria virginiana*
Carolina cranesbill	*Geranium carolinianum*
St. Andrew's cross	*Hypericum hypericoides*
Dwarf dandelion	*Krigia dandelion*
Henbit	*Lamium amplexicaule*
Purple henbit	*Lamium purpureum*
Primrose willow	*Ludwigia decurrens*
Floating primrose	*Ludwigia peploides*
Giant goldenrod	*Solidago gigantea*
Sensitive fern	*Onoclea sensibillis*
Wood sorrel	*Oxalis stricta*
Pokeweed	*Phytolacca americana*
Plantain	*Plantago* sp.
Smartweed	*Polygonum punctatum*
Resurrection fern	*Polypodium polypodioides*
Buttercup	*Ranunculus* sp.
Multiflora rose	*Rosa multiflora*
Blackberry	*Rubus* sp.
Dewberry	*Rubus* sp.
Lyre-leaf sage	*Salvia lyrata*
Elderberry	*Sambucus canadensis*
Common chickweed	*Stellaria media*
Common dandelion	*Taraxacum officinale*
White clover	*Trifolium repens*
Brazilian vervain	*Verbena brasiliensis*
Smooth vetch	*Vicia dasycarpa*
Common violet	*Viola floridana*
Grasses, Sedges, and Rushes	
Broom sedge	*Andropogon virginicus*
Frank's sedge	*Carex frankii*
Sedges	*Carex* sp.
Common Bermuda grass	*Cynodon dactycon*
Straw-color flatsedge	*Cyperus strigosus*
Crabgrass	*Digitaria* sp.
Spike-rush	*Eleocharis* sp.
Fescue	*Festuca* sp.
Rush	*Juncus* sp.
Beaked panic grass	*Panicum anceps*
Panic grass	*Panicum* sp.
Scribner panicum	*Panicum scribnerianum*
Switchgrass	*Panicum virgatum*
Bahia grass	*Paspalum notatum*
Annual bluegrass	*Poa annua*
Foxtail	*Setaria geniculata*
Johnson grass	*Sorghum halepense*
Wetland Vegetation	
Water oak	*Quercus nigra*
American elm	*Ulmus americana*
Green ash	*Fraxinus pennsylvanica*
Sweet gum	*Liquidambar styraciflua*
Sugarberry	*Celtis Laevigata*

TYPE / COMMON NAME	SCIENTIFIC NAME
Wetland Vegetation (cont.)	
Groundsel	*Baccharis halimifolia*
Winged elm	*Ulmus alata*
Poison ivy	*Toxicodendron radicans*
Elderberry	*Sambucus canadensis*
Japanese honeysuckle	*Lonicera Japonica*
Spring cress	*Cardamine bulbosa*
Sedges	*Carex* sp.
Soft rush	*Juncus effusus*
Big bluestem	*Andropogon girardia*
Panic grass	*Panicum* sp.
Buttercup	*Ranuculus* sp.
Seedbox	*Ludwigia alternifolia*
Upland Vegetation: Mixed-Hardwood Forest	
Water oak	*Quercus nigra*
Shumard oak	*Quercus shumardii*
Cherrybark oak	*Quercus falcata* var. *pagodaefolia*
Black cherry	*Prunus serotina*
Flowering dogwood	*Cornus florida*
Blackberry	*Ruhus allegheniensis*
Poison ivy	*Toxicodendron radicans*
Common blue violet	*Viola papilionacea*
Spring beauty	*Claytonia virginica*
Japanese honeysuckle	*Lonicera japonica*

TYPE / COMMON NAME	SCIENTIFIC NAME
Upland Vegetation: Pine/Oak Forest	
Loblolly pine	*Pinus taeda*
Shumard oak	*Quercus shumardii*
Water oak	*Quercus nigra*
Black cherry	*Prunus serotina*
Possumhaw	Unknown
Japanese honeysuckle	*Lonicera japonica*
Upland Vegetation: Late Successional Fields	
Sweetgum	*Liquidambar styraciflua*
Loblolly pine	*Pinus taeda*
Eastern red cedar	*Juniperus virginiana*
Winged elm	*Ulmus alata*
Blackberry	*Prunus serotina*
Wax myrtle	*Myrica cerifera*
Groundsel tree	*Baccharis halimifolia*
Goldenrod	*Solidago* spp.
Japanese honeysuckle	*Lonicera Japonica*
Little bluestem	Unknown
Upland Vegetation: Agricultural Fields	
False garlic	*Allium bivalve*
Cranesbill	*Geranium* sp.
White clover	*Trifolium repens*
Quaker lady bluets	*Houstonia caerula*
Various grasses	Unknown

Protected Plant Species in Madison County, Mississippi

Common Name	Scientific Name	State Status	Federal Status	Description
American Chaffseed	*Schwalbea americana*	-	F	Habitat not supported
Pondberry	*Lindera melissifolia*	-	F	Habitat not supported
Price's potato-bean	*Apios priceana*	-	F	Habitat not supported
Prairie milkweed	*Asclepias hirtella*	S	-	Habitat not supported
Eastern purple coneflower	*Echinacea purpurea*	S	-	Habitat not supported
American ginseng	*Panax quinquefolius*	S	-	Habitat not supported
Climbing bittersweet	*Celastrus scandens*	S	-	Habitat not supported
American colombo	*Swertia caroliniensis*	S	-	Habitat not supported
Umbrella magnolia	*Magnolia tripetala*	S	-	Habitat not supported
Scarlet woodbine	*Schisandra glabra*	S	-	Habitat not supported
Turk's cap lily	*Lilium superbum*	S	-	Habitat not supported
Louisiana trillium	*Trillium ludovicianum*	S	-	Habitat not supported
Crested coralroot	*Hexalectris spicata*	S	-	Habitat not supported
Southern maidenhair-fern	*Adiantum capillus-veneris*	S	-	Habitat not supported
Silvery spleenwort	*Athyrium thelypterioides*	S	-	Habitat not supported

Source: Mississippi Natural Heritage Database, May 1999.
F = Federally listed as threatened or endangered.
S = Mississippi State species of special concern.

Plant Species of Special Concern for Mississippi

Common Name	Scientific Name	State Status	Federal Status	Description
Prairie milkweed	*Asclepias hirtella*	S	-	Habitat not supported
Eastern purple coneflower	*Echinacea purpurea*	S	-	Habitat not supported
American ginseng	*Panax quinquefolius*	S	-	Habitat not supported
Climbing bittersweet	*Celastrus scandens*	S	-	Habitat not supported
American colombo	*Swertia caroliniensis*	S	-	Habitat not supported
Umbrella magnolia	*Magnolia tripetala*	S	-	Habitat not supported
Scarlet woodbine	*Schisandra glabra*	S	-	Habitat not supported
Turk's cap lily	*Lilium superbum*	S	-	Habitat not supported
Louisiana trillium	*Trillium ludovicianum*	S	-	Habitat not supported
Crested coralroot	*Hexalectris spicata*	S	-	Habitat not supported
Southern maidenhair-fern	*Adiantum capillus-veneris*	S	-	Habitat not supported
Silvery spleenwort	*Athyrium thelypterioides*	S	-	Habitat not supported

Source: Mississippi National Heritage Program Database May 1999.

S = Mississippi State Species of Special Concern

APPENDIX B: U.S. FISH AND WILDLIFE SERVICE CONSULTATION

United States Department of the Interior

FISH AND WILDLIFE SERVICE
2524 South Frontage Road, Suite B
Vicksburg, Mississippi 39180-5269

IN REPLY REFER TO:

October 22, 1999

Ms. Karen Lusby
BRW
1225 Seventeenth Street, Suite 200
Denver, Colorado 80202

Dear Ms. Lusby:

The U.S. Fish and Wildlife Service (Service) has received your letter dated September 20, 1999, requesting information regarding federally listed species on the Old Agency Road segment of the Natchez Trace Parkway in Madison County, Mississippi. Our comments are submitted in accordance with the Endangered Species Act (16 U.S.C. 1531 et seq.).

The proposed roadway project site was field reviewed by Service personnel in July of this year. We have determined there are no federally listed threatened or endangered species or their habitats in the project area. However, potential impacts to onsite wetlands were identified. We will provide our comments regarding these impacts to the Corps of Engineers and National Park Service during the permit review process.

If you have any questions, please contact our office, telephone: (601) 965-4900, ext 132.

Sincerely,

Kathy W Lunceford

Kathy W. Lunceford
Mississippi Environmental Coordinator

APPENDIX C: CULTURAL RESOURCE CONSULTATION

**Advisory
Council On
Historic
Preservation**

1522 K Street, NW
Washington, DC 20005

Mr. Joe Brown
Regional Director
National Park Service
Southeastern Regional Office
75 Spring Street, SW.
Atlanta, Georgia 30303

Dear Mr. Brown:

The Memorandum of Agreement for the proposed construction of Section 1A, 1B, and 1C in Tennessee, Section 2D in Alabama, and Section 3A, 3P, 3U, and 3V in Mississippi of the Natchez Trace Parkway has been ratified by the Chairman of the Council. This document constitutes the comments of the Council required by Section 106 of the National Historic Preservation Act and completes compliance with the Council's regulations, "Protection of Historic and Cultural Properties" (36 CFR Part 800). A copy of the Agreement is enclosed.

In accordance with Section 800.6(c)(2) and 800.9(e) of the Council's regulations, a copy of the Agreement should be included in any environmental assessment or statement prepared for this undertaking to meet requirements of the National Environmental Policy Act and should be retained in your records as evidence of compliance with Section 106 and the Council's regulations.

The Council appreciates your cooperation in resolving this matter.

Sincerely,

(for) Jordan E. Tannenbaum
Chief, Eastern Division
of Project Review

Enclosure
MOA

Council on
Historic
Preservation

1522 K Street NW
Washington DC
20005

MEMORANDUM OF AGREEMENT

WHEREAS, the National Park Service (NPS) proposes to construct Section 1A, 1B, and 1C in Tennessee; Section 2D in Alabama; and Section 3A, 3P, 3U, and 3V in Mississippi of the Natchez Trace Parkway (Parkway); and,

WHEREAS, NPS, in consultation with the Alabama, Mississippi, and Tennessee State Historic Preservation Officers (SHPO), has determined that this undertaking as proposed would have an adverse effect upon the Old Natchez Trace, in Hickman, Lawrence, Lewis, Maury, Wayne, and Williamson Counties, Tennessee, and the John Gordon House in Hickman and Maury Counties, Tennessee, properties included in the National Register of Historic Places and the Rock Creek Archeological District, Colbert County, Alabama, Gordon Mound and Mud Island Creek Complex, Jefferson County, Mississippi, the Old Natchez Trace, Hinds and Madison Counties, Mississippi and the Shelby Bend Archeological District, Hickman County, Tennessee, properties eligible for inclusion in the National Register of Historic Places; and,

WHEREAS, pursuant to Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. Sec. 470f, as amended, 90 Stat. 1320), Section 2(b) of Executive Order 11593, "Protection and Enhancement of the Cultural Environment," and Section 800.6(d) of the regulations of the Advisory Council on Historic Preservation (Council), "Protection of Historic and Cultural Properties" (36 CFR Part 800), NPS has requested the comments of the Council; and,

WHEREAS, pursuant to Section 800.6 of the Council's regulations, representatives of the Council, NPS, and the Alabama, Mississippi, and Tennessee SHPOs have consulted and reviewed the undertaking to consider feasible and prudent alternatives to avoid or satisfactorily mitigate the adverse effect;

NOW, THEREFORE, it is mutually agreed that the undertaking will be implemented in accordance with the following stipulations to satisfactorily mitigate adverse effects on the above-mentioned properties.

Memorandum of Agreement
National Park Service
Shelby Bend Archeological District

Stipulations

SITE-SPECIFIC CONDITIONS

1. **Shelby Bend Archeological District and the Gordon House**

Prior to construction in the Duck River vicinity, Tennessee, NPS will carry out the following measures.

a. NPS in consultation with the Tennessee SHPO, will establish boundaries for the area of potential project impact. Within these established boundaries, further resource identification studies will then be undertaken to include the following:

(1) archeological testing of sites associated with the Shelby Bend Archeological District, especially HX-19 and HX-20, to define site boundaries, identify depth of sites and assess extent of subsurface remains.

(2) historic and architectural analysis of structural properties for which determinations of eligiblity have not yet been sought.

These studies will be done in accordance with 36 CFR Part 66, Appendix B, "Guidelines for the Location and Identification of Historic Properties Containing Scientific, Prehistoric, Historical, or Archeological Data" and Appendix C, "Professional Qualifications" (Attachment 1).

b. Following completion of these studies, NPS, in consultation with the Tennessee SHPO, will apply the National Register Criteria to identified sites. NPS will submit the documentation on these sites to the Keeper of the National Register for determinations of eligibility in accordance with 36 CFR Part 63 (Attachment 2), as appropriate.

c. NPS in consultation with the Tennessee SHPO, will then develop a series of alternatives for project completion in the Duck River vicinity. Each alternative will include a full discussion of effects to the identified properties, costs estimates, and anticipated effects to other resources. Alternatives that require crossing the River in the vicinity of the Gordon House will include design elevations of the bridge. NPS will then select a preferred alternative and inform the Tennessee SHPO of its selection and submit documentation on all of the alternatives to the Tennessee SHPO for review and comment. If after review of the preferred alternative, the Tennessee SHPO is of the opinion that its construction will adversely affect properties included in or eligible for inclusion in the National Register, NPS will request the comments of the Council in accordance with Section 800.4(d) of the Council's regulations.

2. Rock Creek Archeological District

Prior to construction of Section 2D, Alabama, NPS, in consultation with the Alabama SHPO, will carry out the following measures:

a. The Parkway in this section will be designed to ensure that between 70% and 80% of the Rock Creek Archeological District is avoided and preserved in-place.

b. For the remaining portion of the Rock Creek Archeological District which will be disturbed by construction, a data recovery plan will be developed and implemented in accordance with the standards outlined in 36 CFR Part 66, "Recovery of Scientific, Prehistoric, Historic and Archeological Data: Methods, Standards, and Reporting Requirements" (Attachment 1). Prior to undertaking the data recovery program, the plan will be provided to the Alabama SHPO and the Council for review. Within 30 calendar days of receipt of the plan, the Alabama SHPO and the Council will provide their comments, if any, to NPS. If, after review of the plan, either the Alabama SHPO or the Council is of the opinion that the plan does not appropriately mitigate adverse effects, NPS will request the Council's comments in accordance with Section 800.6 of the Council's regulations.

3. Mud Island Creek Complex and Gordon Mound

Prior to construction of Section 3U and 3V, Mississippi, NPS will undertake further archeological testing of the Mud Island Creek Complex and Gordon Mound to define boundaries, identify depth of the sites, and assess extent of subsurface remains. This testing will be done in accordance with 36 CFR Part 66, Appendixes B and C (Attachment 1). Based on the results of this additional testing, a data recovery plan will be developed and implemented in accordance with the standards outlined in 36 CFR Part 66, (Attachment 1).

Memorandum of Agreement
National Park Service
Shelby Bend Archeological District

Prior to undertaking the data recovery program, the plan will be provided to the Mississippi SHPO and the Council for review. Within 30 calendar days of receipt of the plan, the Mississippi SHPO and the Council will provide their comments, if any, to NPS. If, after review of the plan, either the Mississippi SHPO or the Council is of the opinion that the plan does not appropriately mitigate adverse effects, NPS will request the Council's comments in accordance with Section 800.6 of the Council's regulations.

4. Old Natchez Trace

Prior to commencing construction of any section of the Parkway that may adversely affect portions of the Old Natchez Trace included in or eligible for inclusion in the National Register, NPS will submit the plans for that section of the Parkway to the appropriate SHPO for review and comment. If, after review of the plans, the SHPO is of the opinion that the construction will adversely affect the Old Natchez Trace, NPS will request the comments of the Council in accordance with Section 800.4(d) of the Council's regulations.

GENERAL CONDITIONS

1. NPS will ensure that an archeologist meeting the professional qualifications for supervisory archeologist set forth in 36 CFR Part 66, Appendix C (Attachment 1), will be present during all ground disturbing and clearing activities. In the event that archeological resources are found that may meet the National Register Criteria, construction activities that could affect the resources will be stopped and a determination of eligibility for inclusion in the National Register will be obtained from the Keeper of the National Register. If the resources are determined eligible, NPS will evaluate the feasibility of their preservation in-place. If preservation in-place is determined to be infeasible, a data recovery program will be developed and implemented in accordance with the Council's "Guidelines for Making 'Adverse Effect' and 'No Adverse Effect' Determinations for Archeological Resources in Accordance with 36 CFR Part 800" (Attachment 3).

2. During construction NPS will ensure that those archeological sites to be preserved in-place will not be disturbed by construction activities or construction related activities.

3. Prior to completion of construction of the sections of the Parkway covered by this Agreement NPS, in cooperation with the Alabama, Mississippi, and Tennessee SHPOs will prepare

Memorandum of Agreement
National Park Service
Shelby Bend Archeological District

for submission to the Keeper of the National Register, an Old Natchez Trace Multiple Resource Nomination. The Nomination will collect under one entry resources associated with the Old Trace already included in or determined to be eligible for inclusion in the National Register that are under NPS ownership. It will also include segments of the Old Trace listed in the National Register and contributing archeological, historical, architectural, cultural and engineering features which are resources integral to the Old Trace yet outside the jurisdiction or control of NPS.

4. The terms of this Agreement cover all construction activities associated with the Natchez Trace Parkway, to include parking areas, ancillary roads, borrow pits and staging areas.

5. Compliance with the Council's regulations for future development of NPS facilities ancillary to the Natchez Trace Parkway will be handled in accordance with the terms of the "Programmatic Memorandum of Agreement between the National Park Service and the Council."

6. Failure to carry out the terms of this Agreement requires that NPS again request the Council's comments in accordance with 36 CFR Part 800. If the NPS cannot carry out the terms of the Agreement, it shall not take or sanction any action or make any irreversible commitment that would result in an adverse effect with respect to National Register or eligible properties covered by the Agreement or would foreclose the Council's consideration of modifications or alternatives to the Natchez Trace Parkway that could avoid or mitigate the adverse effect until the commenting process has been completed.

7. If any of the signatories to this Agreement determine that the terms of the Agreement cannot be met or believes a change is necessary, that signatory shall immediately request the consulting parties to consider an amendment or addendum to the Agreement. Such an amendment or addendum shall be executed in the same manner as the original Agreement.

8. Within 90 days after carrying out the terms of the Agreement, NPS shall provide a written report to all signatories to the Agreement on the actions taken to fulfill the terms of the Agreement.

12/11/79
(date)
Deputy Executive Director
Advisory Council on Historic Preservation

Memorandum of Agreement
National Park Service
Shelby Bend Archeological District

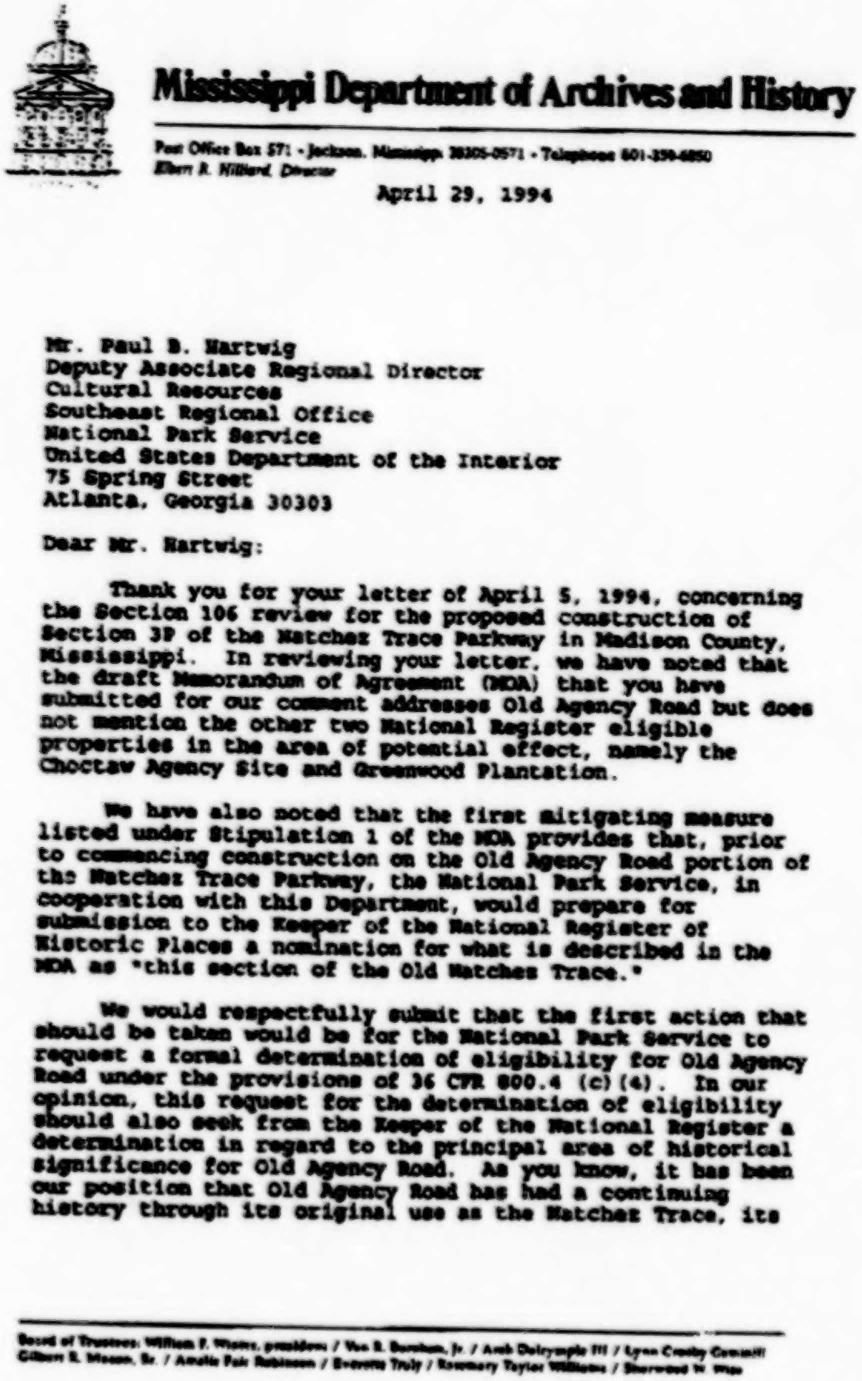
Neil G Guse (date) 1/10/80
National Park Service

Milo B. Howard Jr. (date) 2/22/80
Alabama State Historic Preservation
Officer

Elbert R. Hilliard (date) 4-14-80
Mississippi State Historic Preservation
Officer

Herbert L. Harper (date) 1/30/80
Tennessee State Historic Preservation
Officer

Richard H. Jenrette (date) July 1, 1980
Chairman
Advisory Council on Historic Preservation



Mississippi Department of Archives and History

Post Office Box 571 · Jackson, Mississippi 39205-0571 · Telephone 601-359-6850
Elbert R. Hilliard, Director

April 29, 1994

Mr. Paul B. Hartwig
Deputy Associate Regional Director
Cultural Resources
Southeast Regional Office
National Park Service
United States Department of the Interior
75 Spring Street
Atlanta, Georgia 30303

Dear Mr. Hartwig:

Thank you for your letter of April 5, 1994, concerning the Section 106 review for the proposed construction of Section 3P of the Natchez Trace Parkway in Madison County, Mississippi. In reviewing your letter, we have noted that the draft Memorandum of Agreement (MOA) that you have submitted for our comment addresses Old Agency Road but does not mention the other two National Register eligible properties in the area of potential effect, namely the Choctaw Agency Site and Greenwood Plantation.

We have also noted that the first mitigating measure listed under Stipulation 1 of the MOA provides that, prior to commencing construction on the Old Agency Road portion of the Natchez Trace Parkway, the National Park Service, in cooperation with this Department, would prepare for submission to the Keeper of the National Register of Historic Places a nomination for what is described in the MOA as "this section of the Old Natches Trace."

We would respectfully submit that the first action that should be taken would be for the National Park Service to request a formal determination of eligibility for Old Agency Road under the provisions of 36 CFR 800.4 (c)(4). In our opinion, this request for the determination of eligibility should also seek from the Keeper of the National Register a determination in regard to the principal area of historical significance for Old Agency Road. As you know, it has been our position that Old Agency Road has had a continuing history through its original use as the Natchez Trace, its

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late 19th and early 20th century use as a rural plantation/farm road, and its current contribution as a scenic road in an urban area. The National Park Service, on the other hand, has consistently held that the primary significance of Old Agency Road rests in its having served as the original Natchez Trace.

For the record, we would like to take this opportunity to reiterate the previous attempts of the Department of Archives and History to formally nominate Old Agency Road to the National Register of Historic Places:

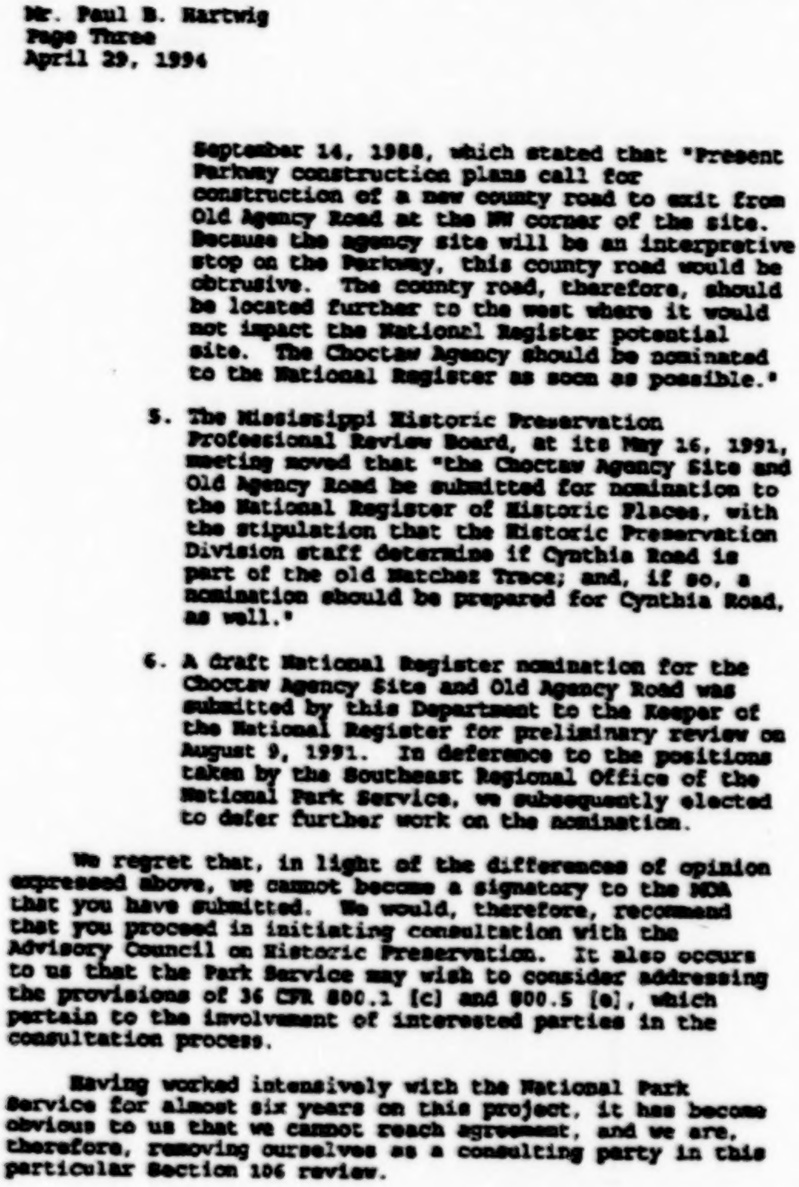
1. The Old Agency Road nomination was presented to the Mississippi Historic Preservation Professional Review Board on May 10, 1988, and was approved for nomination at that time.

2. The nomination was returned by the Keeper of the National Register in June of 1988 for further research.

3. The nomination was revised, and the National Park Service, along with other property owners in the area, was notified that the nomination was being resubmitted to the Review Board for its consideration.

4. The National Park Service, in its letter of May 14, 1991, stated that it objected to the nomination, noting that, "While we agree with the eligibility of Old Choctaw Agency Site, further investigation is needed before the site is nominated. Once the extent of the site is documented, we will nominate it to the National Register in consultation with your office. Old Agency Road is already on the National Register, and we disagree with the need to enhance its documentation at this time."

   Our staff has contacted the National Register Office in Washington and has been informed that the Old Agency Road portion of the Natchez Trace has never been listed on the National Register. We have also reviewed the National Park Service preliminary report dated



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September 14, 1988, which stated that "Present Parkway construction plans call for construction of a new county road to exit from Old Agency Road at the NW corner of the site. Because the agency site will be an interpretive stop on the Parkway, this county road would be obtrusive. The county road, therefore, should be located further to the west where it would not impact the National Register potential site. The Choctaw Agency should be nominated to the National Register as soon as possible."

5. The Mississippi Historic Preservation Professional Review Board, at its May 16, 1991, meeting moved that "the Choctaw Agency Site and Old Agency Road be submitted for nomination to the National Register of Historic Places, with the stipulation that the Historic Preservation Division staff determine if Cynthia Road is part of the old Natchez Trace; and, if so, a nomination should be prepared for Cynthia Road, as well."

6. A draft National Register nomination for the Choctaw Agency Site and Old Agency Road was submitted by this Department to the Keeper of the National Register for preliminary review on August 9, 1991. In deference to the positions taken by the Southeast Regional Office of the National Park Service, we subsequently elected to defer further work on the nomination.

We regret that, in light of the differences of opinion expressed above, we cannot become a signatory to the MOA that you have submitted. We would, therefore, recommend that you proceed in initiating consultation with the Advisory Council on Historic Preservation. It also occurs to us that the Park Service may wish to consider addressing the provisions of 36 CFR 800.1 [c] and 800.5 [e], which pertain to the involvement of interested parties in the consultation process.

Having worked intensively with the National Park Service for almost six years on this project, it has become obvious to us that we cannot reach agreement, and we are, therefore, removing ourselves as a consulting party in this particular Section 106 review.

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We are also of the opinion that the National Park Service needs to outline the steps that it plans to take to address the project's adverse effect on Greenwood Plantation, which we believe is eligible for the National Register.

We recognize that in this particular situation involving the construction of Section 3P of the Natchez Trace Parkway there is no ideal solution. Whatever is done in the area will have a significant effect.

With every good wish, I am

Sincerely,

Elbert R. Hilliard
State Historic Preservation Officer

ERH:cs
c: Clearinghouse for Federal Programs
   Mr. Don Klima
   Mr. Dan Brown

H4217(SER-OCR)

Mr. Robert D. Bush
Executive Director
Advisory Council on Historic Preservation
1100 Pennsylvania Avenue, N.W.
Suite 809
Washington, D.C. 20005

Dear Mr. Bush:

The National Park Service (NPS) is proposing to construct a portion of section 3-P of the Natchez Trace Parkway in Madison County, Mississippi. Under the terms of a 1980 Memorandum of Agreement (MOA), we have been in consultation with the Mississippi State Historic Preservation Officer (SHPO) regarding the potential adverse effect of the project on a portion of the historic property known as the Old Natchez Trace, currently also serving as the alignment of Old Agency Road. This consultation has been ongoing since 1988. Our determination was that the project would have an adverse effect on a portion of the segment of Old Natchez Trace. The SHPO has not commented on the potential effects on the Old Natchez Trace but instead asserts that the short section of Old Agency Road which would be closed in conjunction with the project would be an adverse effect. The NPS does not concur with the latter. Despite numerous attempts to resolve our differences with the SHPO, these efforts have been unsuccessful. As a result, the SHPO has removed his office from the Section 106 consultation process as is evident from the attached letter dated April 29, 1994. Therefore, at this time we would like to initiate Section 106 consultation with the Advisory Council as provided for in 36 CFR 800.1(c)(1)(ii).

As background, the NPS has been discussing completion of the Natchez Trace Parkway near Jackson, Mississippi, with the SHPO for at least six years. A three mile segment of the Old Natchez Trace, now paved, serves as the alignment of Old Agency Road running parallel to and crossing Parkway lands in this project area. This segment of Old Natchez Trace is eligible for listing on the National Register of Historic Places, a point on which the NPS and the SHPO are in agreement. However, the NPS takes the position that the primary basis for the eligibility of the affected segment of Old Natchez Trace is its 1790 to 1820 period of principle historic use in context with the then extant Natchez, Mississippi to Nashville, Tennessee overland route. The succeeding adaptation of this portion of the Old Natchez Trace into the current Old Agency Road, while encompassing historic usage, constitutes a subordinate, secondary historic basis for potential eligibility. The setting for the extended duration of more recent use of this alignment of the Old Natchez Trace has been dynamic since the turn of the century. Change has been a significant factor surrounding Old Agency Road, most notably the reduction in open agrarian landscape. In response first to declining agricultural land use, succeeded by purchase of lands for the Natchez Trace Parkway by the State of Mississippi, and subsequent transfer to the NPS, fallow field succession has been responsible for the often noteworthy wooded setting of this portion of Old Agency Road. This recent land use change clearly calls into question the integrity of the setting associated with the period of Old Agency Road's use.

NPS plans for construction of the Parkway call for crossing the affected segment of Old Natchez Trace at grade, restoration of the Old Trace section resulting from the closure of Old Agency Road in accordance with the 1978 Environmental Impact Statement (EIS), and construction of a new public road to provide continued deed reserved access between properties accessing Old Agency Road and the local public road system. The SHPO, though, prefers an option that keeps Old Agency Road open, through the use of a bridge over Old Agency Road.

In an attempt to work with the SHPO on finding an acceptable solution, the NPS has devoted extensive time and energy in developing and evaluating various alternatives, conducting many private and public meetings with numerous local residents and government officials who have an interest in the matter. As a consequence of this process the NPS has determined that the planned crossing of the Old Natchez Trace and Old Agency Road at grade has the least adverse impact on cultural resources potentially affected by the proposed project and simultaneously provides opportunities for substantive mitigation. Specifically, although other alternatives, such as bridging Old Agency Road over the Parkway motor road, albeit more costly, are feasible on an engineering basis, their impacts to cultural resources are more significant and therefore unacceptable. In addition, these alternatives also would have conveyed increased or clearly unacceptable impacts to other Parkway resources and the environment affecting adjacent residential neighborhoods.

Despite the basis for the NPS's decision on the best treatment of the cultural and other resources affected, there has been local reaction from the public, both negative and positive, to the idea of closing Old Agency Road and the SHPO has made it clear that he can not approve of such a plan. Because of the SHPO's position, and because the NPS continues to believe after a painstakingly thorough decision process that the plan to cross at grade has the least combined impact on the affected resources, we now find ourselves with no other option than to seek an agreement directly with the Advisory Council for the completion of the Section 106 compliance process. This, as you may remember, was a possibility we mentioned in our letter to you of January 10, 1994.

In December 1993, Martha Catlin, of your staff, attended a meeting in Jackson, Mississippi, with the SHPO and NPS staff and was briefed on the Old Agency Road component of this situation and the issues involved. We also provided her with some background documentation at that time. We hope that Martha's participation in that meeting will now be helpful as we begin our consultation with the Advisory Council. Enclosed with this letter is additional documentation as required by 36 CFR 800.8(b)(1-4). It includes a description of the undertaking; a description of the efforts to identify historic properties, a description of the affected historic properties, and a description of the undertaking's effects on historic properties. We have also compiled a record of the extensive public involvement that has been a part of the planning process for the past six years as part of the NPS's phased compliance concerning this eligible property. In addition, we have prepared a draft Memorandum of Agreement (MOA) to be concluded between the NPS and the Advisory Council to stipulate the appropriate mitigation measures for this project. If there is any other information that you require, please call Mike Capps at 404-730-2311.

The NPS has a legislative mandate to complete construction of the Natchez Trace Parkway; this project is the last segment to be built with the exception of the termini at either end. It is very important that we proceed with the fulfillment of our mandate. We also want to do so in a manner that affords the most protection to the cultural resources in our care. We look forward to working with you in successfully concluding the Section 106 compliance process for this project and proceeding with the actual construction.

Sincerely,

Paul B Hartwig

Paul B. Hartwig
Deputy Associate Regional Director
Cultural Resources

Enclosures

cc: Mississippi State Historic Preservation

bcc: Supt., NATR

MACapps:mc:6/29/94

APPENDIX D: AVERAGE DAILY TRAFFIC METHODOLOGY FOR NOISE AND AIR ANALYSES

Average daily traffic (ADT) forecasts were developed for existing conditions (1997), buildout (2003), and future conditions (2020), based on existing and projected traffic counts done in other reports for the site. ADT volumes were generated for these three time periods for each of the five alternatives evaluated (table D-1). While the ADT counts were used to analyze the traffic impacts, the noise analysis requires peak-hour volumes. Since actual peak-hour counts were not available, the volumes were calculated. Using a typical peak-hour distribution for urban areas, the peak-hour traffic volumes were calculated as 10% of the ADT count (table D-2).

To evaluate the worse case volume scenario for noise impacts, the traffic volumes must be at level of service (LOS) C. Using the procedures for a two-lane roadway outlined in the Highway Capacity manual, (3rd ed.), the level of service was calculated using the estimated peak-hour volumes. The resulting level of services are shown in table D-3. The table shows that the peak-hour volumes on a number of road segments provided a level of service better or worse than C in many cases.

For a given set of road conditions, there is a range of peak-hour volumes that will provide LOS C. To conduct the noise analysis, the actual peak-hour volumes were adjusted to the maximum or minimum value within this LOS C range, depending on whether the actual value was above or below the range. The adjusted peak-hour volumes used in the noise analysis are provided in table D-4.

TABLE D-1: SUMMARY OF ESTIMATED AVERAGE DAILY TRAFFIC ON OLD AGENCY ROAD

	Old Agency Road east of Whippoorwill Lane	Old Agency Road between Dinsmor and Richardson Road	Old Agency Road between Richardson Road and Highland Colony Parkway	Old Agency Road Relocated between Dinsmor and Richardson Road	Old Agency Road Relocated between Richardson Road and Highland Colony Parkway
Existing Volumes (1997)					
Existing	1,100	3,000	10,000	0	0
Alternative 1	1,100	0	10,000*	3,000	0
Alternative 2	1,100	0	7,000	3,000	3,000
Alternative 3	1,100	0	0	3,000	10,000
Alternative 4	1,100	1,000	8,000	2,000	2,000
Alternative 5	1,100	0	10,000	3,000	0
Projected 2003 Volumes (2% increase projected on all roads, based on typical rate of increase for urban areas)					
Existing Trend	1,240	3,380	11,250	0	0
Alternative 1	1,240	0	7,880	3,380	0
Alternative 2	1,240	0	7,880	3,380	3,380
Alternative 3	1,240	0	0	3,380	11,250
Alternative 4	1,240	1,130	9,000	2,250	2,250
Alternative 5	1,240	0	11,250	3,380	0
Projected 2020 Volumes (based on 2020 volumes predicted on Old Agency and 2% subdivision growth)					
Existing Trend**	7,000	11,000	21,000	0	0
Alternative 1	7,000	0	21,000	11,000	0
Alternative 2	7,000	0	10,000	11,000	11,000
Alternative 3	7,000	0	0	11,000	21,000
Alternative 4	7,000	4,500	14,500	6,500	6,500
Alternative 5	7,000	0	21,000	11,000	0

* 7,000 between Richardson Road and new intersection, 10,000 between intersection and Highland Colony Parkway.

** Forecast 2020 estimates based on *Transportation Plan Update* (Waggoner Engineering 1996); 2020 predicted volumes used on Old Agency Road combined with 2% increase on subordinate roads.

TABLE D-2: PEAK-HOUR TRAFFIC ON OLD AGENCY ROAD

	Old Agency Road (East of Whippoorwill Lane)	Old Agency Road (Dinsmor — Richardson Road)	Old Agency Road (Richardson Road — Highland Colony Parkway)	Old Agency Road Relocated (Dinsmor —Richardson Road)	Old Agency Road Relocated (Richardson Road —Highland Colony Parkway)
Projected 2003 Volumes (2% increase on all roads, based on typical rate of increase for urban areas)					
Existing Trend	124	338	1,125	0	0
Alternative 1	124	0	788	338	0
Alternative 2	124	0	788	338	338
Alternative 3	124	0	0	338	1,125
Alternative 4	124	113	900	225	225
Alternative 5	124	0	1,125	338	0
Projected 2020 Volumes (based on 2020 volumes predicted on Old Agency, 2% subdivision growth)					
Existing Trend*	700	1,100	2,100	0	0
Alternative 1	700	0	2,100	1,100	0
Alternative 2	700	0	1,000	1,100	1,100
Alternative 3	700	0	0	1,100	2,100
Alternative 4	700	450	1,450	650	650
Alternative 5	700	0	2,100	1,100	0

* Forecast 2020 estimates based on *Transportation Plan Update* (Waggoner Engineering 1996); 2020 predicted volumes used on Old Agency Road combined with 2% increase on subordinate roads.

TABLE D-3: PEAK-HOUR VOLUMES — ACTUAL LEVEL OF SERVICE

	Old Agency Road (East of Whippoorwill Lane)		Old Agency Road (Dinsmor — Richardson Road)		Old Agency Road (Richardson Road — Highland Colony Parkway)		Old Agency Road Relocated (Dinsmor — Richardson Road)		Old Agency Road Relocated (Richardson Road — Highland Colony Parkway)	
	VPH	LOS	VPH	LOS	VPH	LOS	VPH	LOS	VPH	LOS
Projected 2003 Volumes — 2% increase on all roads (based on typical rate of increase for urban areas)										
Existing Trend	124	B	338	C	1,125	E	0		0	
Alternative 1	124	B	0		1,125	E	338	C	0	
Alternative 2	124	B	0		788	D	338	C	338	C
Alternative 3	124	B	0		0		338	C	1,125	E
Alternative 4	124	B	113	B	900	D	225	B	225	B
Alternative 5	124	B	0		1,125	E	338	C	0	
Projected 2020 Volumes — Estimated based on 2020 volumes predicted on Old Agency Road, 2% subdivision growth										
Existing Trend	700	D	1,100	E	2,100	E	0		0	
Alternative 1	700	D	0		2,100	E	1,100	E	0	
Alternative 2	700	D	0		1,000	E	1,100	E	1,100	E
Alternative 3	700	D	0		0		1,100	E	2,100	E
Alternative 4	700	D	450	C	1,450	E	650	C	650	D
Alternative 5	700	D	0		2,100	E	1,100	E	0	

TABLE D-4: ADJUSTED PEAK-HOUR VOLUMES TO ACHIEVE LOS C

	Old Agency Road (East of Whippoorwill Lane)		Old Agency Road (Dinsmor — Richardson Road)		Old Agency Road (Richardson Road — Highland Colony Parkway)		Old Agency Road Relocated (Dinsmor — Richardson Road)		Old Agency Road Relocated (Richardson Road — Highland Colony Parkway)	
	VPH	LOS	VPH	LOS	VPH	LOS	VPH	LOS	VPH	LOS
Projected 2003 Volumes — 2% increase on all roads (based on typical rate of increase for urban areas)										
Existing	*275*	*C*	338	C	*550*	*C*	0		0	
Alternative 1	*275*	*C*	0		*550*	*C*	338	C	0	
Alternative 2	*275*	*C*	0		*550*	*C*	338	C	338	C
Alternative 3	*275*	*C*	0		0		338	C	*550*	*C*
Alternative 4	*275*	*C*	*275*	*C*	*550*	*C*	*390*	*C*	*275*	*C*
Alternative 5	*275*	*C*	0		*550*	*C*	338	C	0	
Projected 2020 Volumes — Estimated based on 2020 volumes predicted on Old Agency, 2% subdivision growth										
Existing Trend	*550*	*C*	*550*	*C*	*550*	*C*	0		0	
Alternative 1	*550*	*C*	0		*550*	*C*	*775*	*C*	0	
Alternative 2	*550*	*C*	0		*550*	*C*	*775*	*C*	*775*	*C*
Alternative 3	*550*	*C*	0		0		*775*	*C*	*775*	*C*
Alternative 4	*550*	*C*	450	C	*550*	*C*	650	C	*650*	*C*
Alternative 5	*550*	*C*	0		*550*	*C*	*775*	*C*	0	

Note italics indicate the volume was adjusted to achieve LOS C. Maximum volume for LOS used.

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